

WIN**A SAM COUPE****SEE PAGE 78**

COMPUTER EXPRESS

FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

THIS WEEK

AMIGA

The first add-on CD-ROM drives arrive...**Plus**...How to get free games legally

ATARI

More Panther console plans leaked...**Plus**...ST Desktop video for only £229

PC

The IBM you can play Sega Megadrive games on
Plus...4Mb floppy drives are on their way!

CPC

The best console game yet?

NINTENDO'S SHARP MOVE

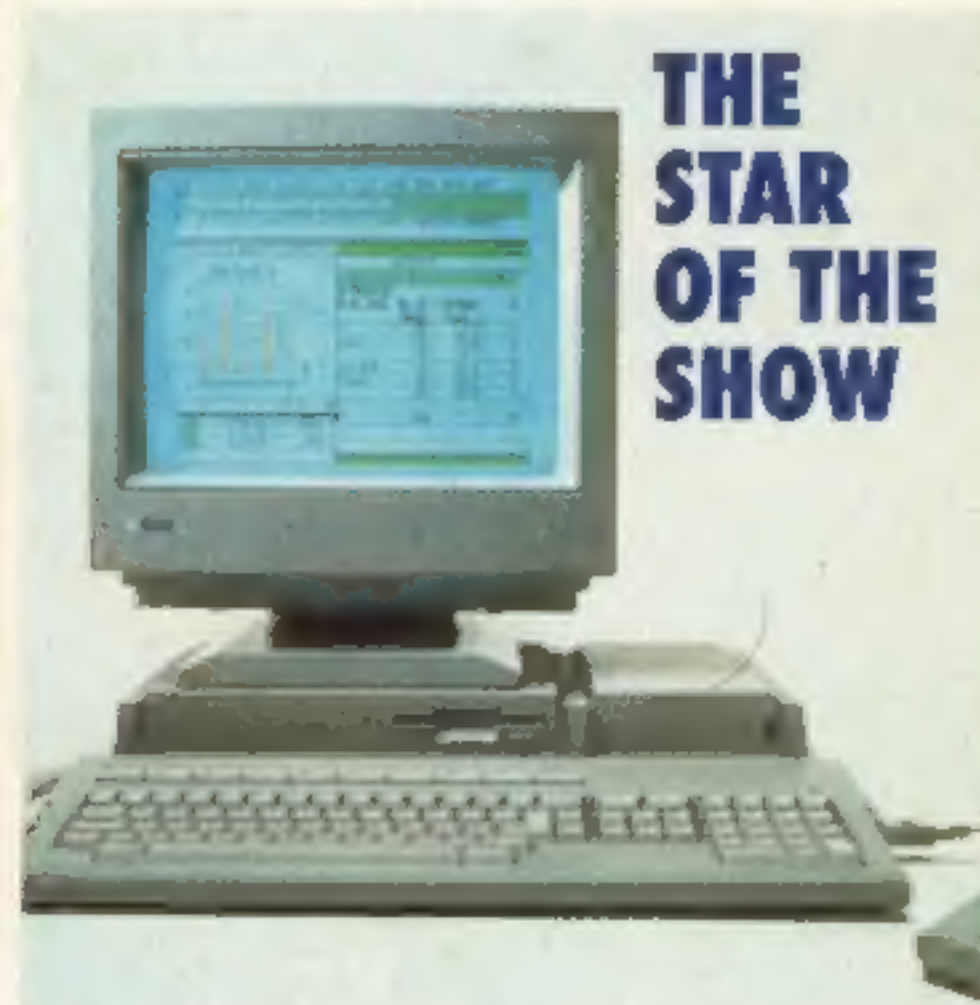
Is this the future of home entertainment?

Full details on page 7



PLUS
52 PAGES
OF BARGAINS

**THE
STAR
OF THE
SHOW**

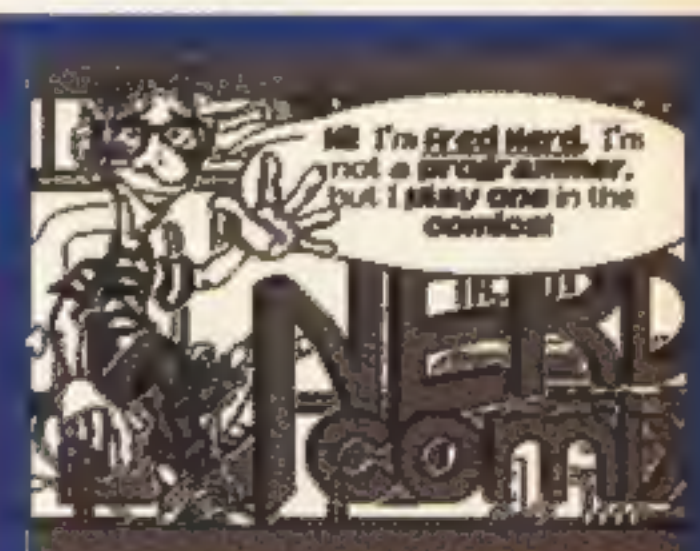


EXPRESS visits Las Vegas for Comdex Fall '90!
First report pages 4 & 5

**WORLD
EXCLUSIVE**



SNEAKED OUT OF RUSSIA
First ever pictures from inside a Soviet computer factory

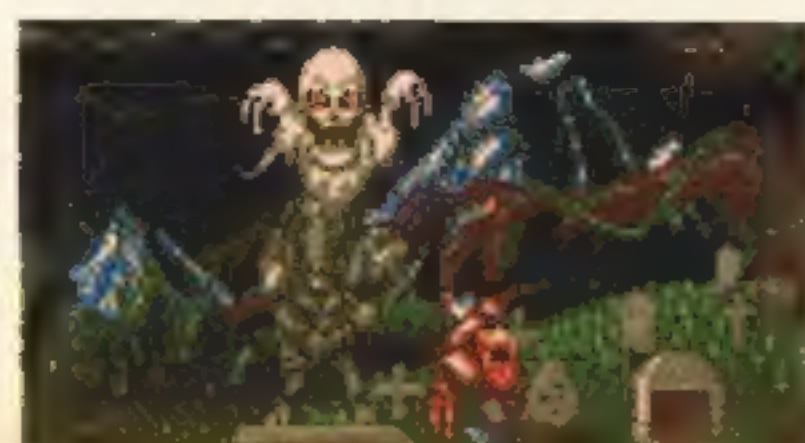


**A mag on
your Mac**

CD-ROM: the future of publishing?

FIRE & BRIMSTONE

The first playing guide to the hottest arcade adventure around



47

GLOBAL NEWS

ARC UPGRADES

CUSTOM MACS

CRACKING CODE

FAB FREE PD

TOP TECH TIPS

AMIGA PCs

MORE MEGA STES

AND...EVEN MORE

WHOLE WIRED

WONDERS!

**SHOPPING
EXPRESS**

THE FASTEST WAY TO YOUR BARGAIN AND MORE

CONTENTS

Page 100 CD-ROM

Page 101 CD-ROM

Page 102 CD-ROM

Page 103 CD-ROM

Page 104 CD-ROM

Page 105 CD-ROM

Page 106 CD-ROM

Page 107 CD-ROM

Page 108 CD-ROM

Page 109 CD-ROM

Page 110 CD-ROM

Page 111 CD-ROM

Page 112 CD-ROM

FREE! Reader Ads Order Form

Name

Address

Postcode

frontend

edited by Colin Campbell



HE'S BACK!

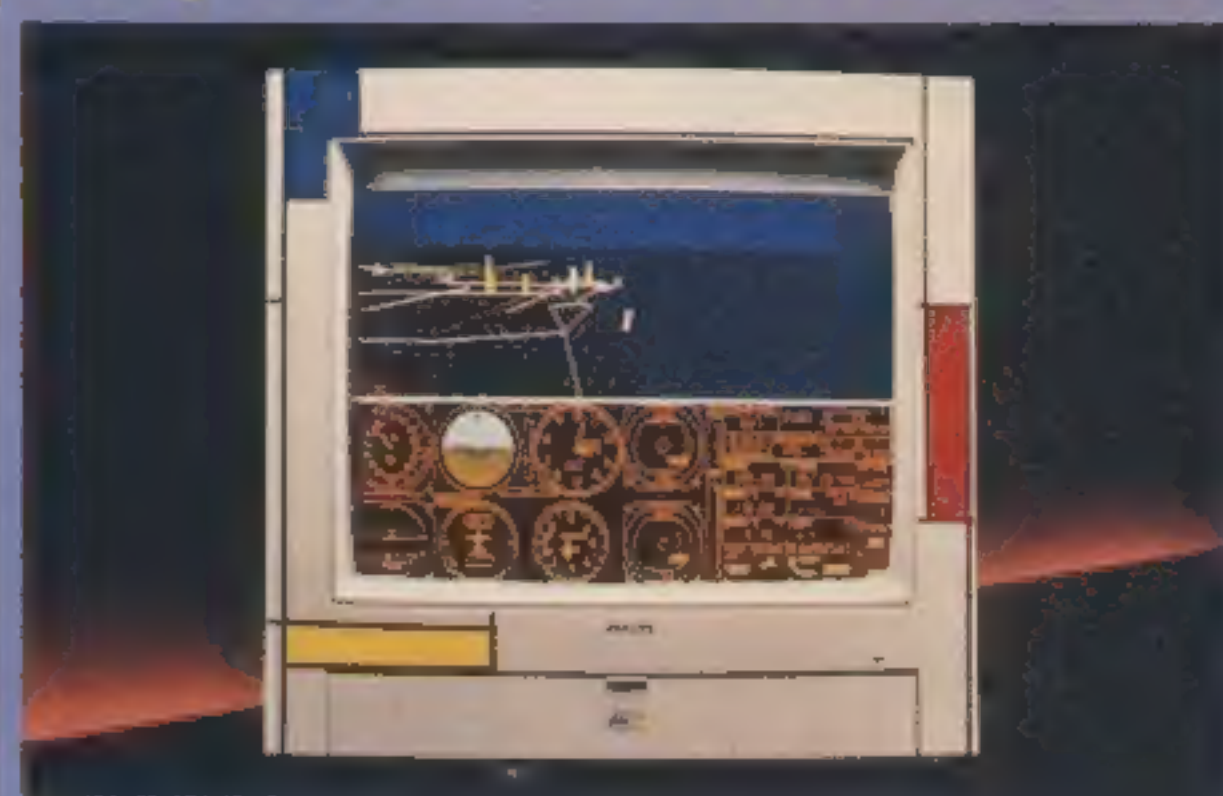
This Mark II Hunter-Killer's capacity for violence is legendary. *The Terminator* comes from the future to eliminate people and, it has to be said, he's exceptionally good at his job.

Gamers have already experienced his idea of a good time in the excellent Ocean version of the 1984 Arnold Schwarzenegger movie *Terminator*. Now, the Manchester software publisher is on the verge of tying up the licence to *Terminator II*.

The movie promises to set new standards in gratuitous violence with gory deaths planned for your enjoyment. But, of course, computer addicts are mostly interested in the film's cyberspace undertones and delicious electronic gadgetry.

Ocean's *Terminator II* should be with us by next September, and, given games players' delight in destruction, a Gallup number one is virtually guaranteed. ■

Art, man and machine



Have you ever heard of a Dutch artist called Piet Mondrian? Apparently, he was inspired by the spiritual ideas of theosophy and anthroposophy which stress a universal harmony of man, art, nature and machine beyond appearances.

Computer manufacturer Philips knows all about Mondrian, and has launched "limited edition" series of monitors adorned with his designs. The "Artist Series" features pretty versions of the CM8833/II colour CGA which is compatible with most home computers including PC, Amiga and ST.

The Mondrian paintings have formed the basis of many commercial designs from plastic aprons to Yves Saint Laurent clothing. But this is the first time his work has been adopted for technology.

Philips is manufacturing 2,000 limited edition monitors in the UK retailing at the normal price of £269. ■

Southend fire hits micro shop

A freak accident has caused millions of pounds of damage to a Southend computer shop.

On Saturday 3 November a fire broke out in waste paper bins in the yard of Superdrug in Queens Road. It appears that some of the burning materials got through ventilation shafts into the Lawrence Matthews computer shop. A large scale

fire then destroyed parts of the building as well as computer stocks.

The firm had been a well respected dealer in artists materials and had recently started selling STs, Amigas and PCs as well as a large number of software titles. No-one at the shop was available for comment last week. ■



ST User virus farce

A matter of considerable embarrassment has arisen within the ranks of computer magazine publisher Database/Interactive. This month's issue of the worthy magazine *Atari ST User* features a coverdisk containing a

most unwelcome virus.

Readers of the publication, who are generally more than pleased with their free cover disk, were less than happy to find their computer infected with the Goblin virus. This little sucker is described by the magazine editor as "relatively harmless", although infected users have a slightly different perspective.

One reader claimed that it slowed his mouse pointer down, copied itself onto other disks and crashed his machine.

It is not known where the cock-up occurred, but given that Goblin is new, it could have slipped through standard virus detection techniques.

If you've been infected, send your disk back to the friendly people at Database who will either furnish you with a new disk, or a virus busting package. It is understood that a virus killer will be included on the cover of next month's issue. ■

Back to school, James

James Stewart, one of Hollywood's most dearly cherished veterans, has dedicated himself to raising the level of computer literacy in America's deprived areas, thus giving disadvantaged kids a real chance of getting started.

The American Spirit Foundation, of which both he and Bob Hope are founding chairmen, has set an agenda for making every American computer literate by the end of the decade.

In a letter to Russel Cawthorne, who helped produce the *Teenage Mutant Ninja Turtles* film, he writes: "The American Spirit Foundation was conceived to bring about a

renewed sense of love of country and the development of hope among our kids. A current project is the elimination of computer illiteracy by the year 2000.

"The only way we know to do this is to get computers and instructors to kids in the disadvantaged areas who have no access to equipment or instruction." He is asking big money film producers to donate towards computer equipped vans which would visit inner city areas.

Cawthorne said: "This call from an international star of such magnitude should have an impact on every educator throughout the world." ■



US link with Iraq military computers

Investigative reporters at trade mag *Computing* have dug up some fascinating facts concerning computer trade deals between the United States and international bad boy Iraq.

It seems that the multi-nation peace keeping force will face the staggering capabilities of the \$1.5 billion American computers and electronics equipment sold should the Gulf crisis escalate into war.

The equipment was bought by Iraq primarily to

aid research into such worthwhile projects as nuclear weaponry and poison gas development.

Computing managed to get its hands on US government documents detailing the sales to Iraq's interior ministry and military colleges. All the sales were approved by US state departments and US intelligence.

Britain is not above these regrettable deals. ICL sold a number of its most advanced mainframes to Iraq earlier this year. ■

New angle on 3D images

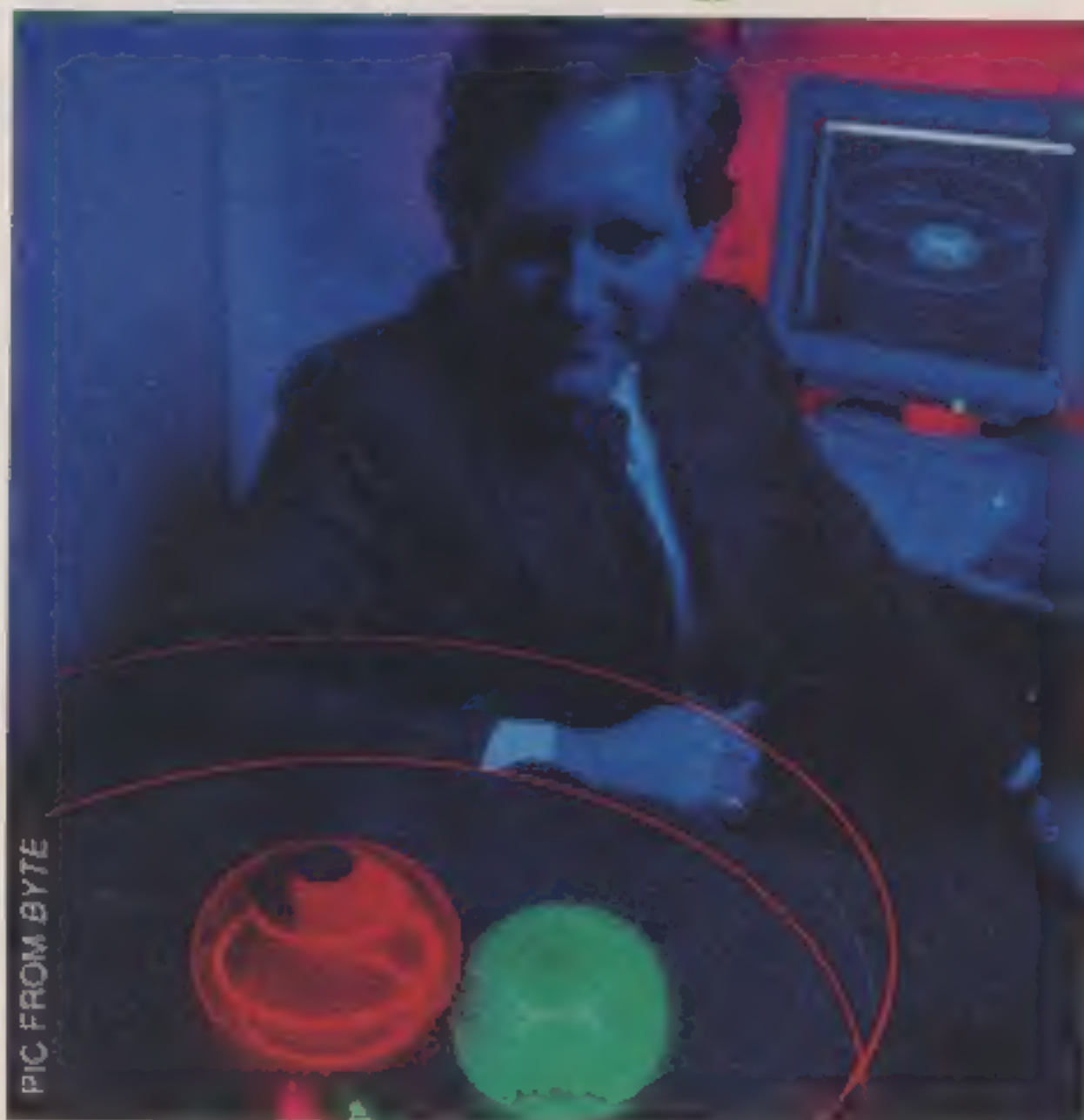
People keep talking about creating three-dimensional images on computer screen. But Texas Instruments has actually managed to develop a laser based computer display that can be viewed from any angle.

The images are displayed on a rotating 'corkscrew' of plastic, and, as in real-life perspective, the image changes depending on the viewer's position.

The corkscrew rotates at 600 revolutions per minute, and a laser is pointed at the object. With some clever software trickery all manner of images can be created.

Texas Instruments is calling its Omniview display a "real-time auto-stereoscopic multiplaner 3-D display system" which kind of explains everything.

The firm hopes to find business partners who can dream up some practical applications. ■



Golden talk from Taiwanese



A new set of peripherals for the ST, Amiga and PC are arriving in the UK this week, courtesy of Taiwanese manufacturer Golden Image.

Optical mice, hand scanners, disk drives and RAM cards are among the goodies on offer. Golden Image claims to be a big name in the Far East, and reckons it can repeat that success on these shores. A spokesman offered: "We're kickin' ass".

Prices for optical mice start at a respectable £39 with mechanical options weighing in at £24. The ST and Amiga hand scanners both cost £199. Disk drives start at £59 for the Amiga compatible 3A-1 with PC versions starting at £99.

For more information call 081-518 7373. ■

DOUBLE DOSE OF GASGOIGNE



This chirpy and talented young footballer is Tottenham Hotspur's Paul Gascoigne, a man who's exploits and antics have been detailed at some length in a variety of publications and television programmes.

Computer football fans may remember his appearance in the original Gazza's Super Soccer, launched last year to the kind of reception usually reserved for goalless draws at Shrewsbury. Now it's to make a re-appearance as part of a four-set footer compilation called Soccer Mania.

Microprose Soccer, Football Manager 2 and Football Manager World Cup Edition.

Gascoigne is also featured in a second game scheduled for pre-Christmas release. It's been cleverly called Gazza! and, according to those who've managed to get a sneak preview, it's worth a look.

Soccer Mania is to be launched across all major formats with prices starting at £14.99. Gazza! will enjoy similar multi-format treatment and should be available within the next few weeks. ■

CONTENTS

FEATURES

Tackling technology Russian style

Our man in the USSR (for a week) checks out the computer scene – page 14

REVIEWS

Publishing on CD-ROM

It is not only a possibility, it actually works. See how – page 71

EVERY WEEK

Games Week

Cutesy platform review and hot tips on *Fire and Brimstone* – page 66



Console Zone – page 34

Programming

Can you crack that code? – page 48

Competition

Win a Super scorching SAM Coupé – page 78

Express 100th birthday winners

– page 76

News	4-9
Opinion	10
Letters	12

SHOPPING EXPRESS

Amiga	18	Centrefold	38
Archimedes	19	Whole Wired	
CPC	20	World	48
C64	22	Questionnaire	51
PC	23	On-line	54
Spectrum	24	Circuit City	57
ST	25	PD Column	58
Mac	32	Tech Tips	62

Amiga makes digital creations

Digital Creations, an Amiga systems specialist from Rancho Cordova California, unveiled DCTV, a video display digitising system for the Amiga, at Comdex Fall.

The system costs just \$495. DCTV stands for Digital Composite Television and uses the Amiga's chip memory as its frame buffer. The software and hardware system creates a full colour screen image with the same resolution as conventional PAL/NTSC television. Images can then be manipulated and edited.

Like other video digitisation systems for the Amiga, DCTV uses the normal high-resolution display modes on the machine, but interprets the Amiga video signal to give, the company claims, a radically new image.

Using a video compression

technique, the digital video signal from the Amiga's RGB port is converted into a full-colour composite video signal.

As Amiga users will be aware, a normal Amiga picture can only display images with a palette of up to 4,096 colours. DCTV removes the 4,096 colour barrier and allows the Amiga to create images with several million colours. Also, because DCTV uses frame memory, full-colour animations are possible.

When shown to *Express*, DCTV's system looked impressive. The company claims that the system is substantially cheaper, as well as being technically superior, to existing systems for the Amiga.

Contact: Digital Creations; tel: 0101-916-344-4825; Fax: 0101-916-635-0475



The Poqet/WorldPort 2400 for The Poqet PC is a 2400 bps pocket sized modem which caused quite a stir at Comdex. With a retail price of only \$345 the cassette-sized modem is the ideal tool for on the move pros filing reports from remote desert locations like Las Vegas. Although the Poqet still remains, at \$2000, one of the most expensive palmtops, unlike the Portfolio it will run all MSDOS applications.

Globalink language

Globalink, a Fairfax, Virginia-based company, unveiled its Globalink Foreign Language Translation Systems (GTS) at Comdex. The software converts ASCII and word processing files from one language to another, using some highly sophisticated software algorithms.

The software runs on PCs with a minimum specification of 640K of RAM, DOS 3.1 or higher, and at least 10Mb of free hard disk space.

The package is very flexible when it comes to the variety of word processing files it accepts, although the files it produces (in the destination language) are pure ASCII.

French, German and Spanish packages are available that convert to and from English at \$998 each. A Russian to English package is also available at \$1,995. A Chinese-English dictionary edition is available at the price of \$245, with a full-blown language translation version expected early in 1991.

The Chinese-English dictionary, though not a true language translation system, has some interesting facilities. It contains more than 7,000 Chinese characters and over 20,000 English words. As each word is typed in, so its Chinese equivalent appears on screen or in an output file. The reverse operation is also supported.

Contact: Caroline Hearn, Globalink; tel: 0101-703-273-5600. Fax: 0101-703-273-3866

LAS VEGAS

In a Whole Wired World Special, Steve Gold edits the highlights of the Comdex Fall Show from America's neon capital.

Comdex Fall '90 - the twelfth in the annual series - seemed to mark a turning point in the computer industry, both from leisure as well as business viewpoints.

While last year's show in Las Vegas was full of new technology products, with exhibitors exhorting show-goers to ditch their existing hardware and software in favour of leading-edge technology systems, this year's show took on a more practical note with computer users being encouraged to upgrade their existing kit. This meant that software producers came to the fore at the show, leaving some of the industry majors - several of whom had brought along some very expensive new toys - with few potential customers scanning the new products.

A sub-theme running through the show this year was one of 'you can take it with you.' I'm referring here to the idea of taking desktop computing out

on the road. Suddenly, everyone is producing laptops - real laptops, I mean, tipping the scales at under the eight pound mark - that have the power and capability to do almost all that a desktop computer can do. Ironically, this feature was typed in a sleazy Las Vegas hotel room - costing \$90 a night, and that's expensive for Las Vegas - on last year's technology, to wit, one Zenith MinisPort laptop.

The MinisPort epitomises the technology that laptop manufacturers are trying to shed - slow microprocessor, sluggish floppy disks and a reasonable screen. This time around, Comdex Fall has brought the industry an array of laptops, also tipping the scales at around six pounds, but 386SX-based, complete with a very readable display and a fast hard disk. Just don't ask the price.

Enough of scene-setting - on with the show report...

Atari gets serious

While Commodore failed to get its act together with the Amiga at Comdex, preferring to opt for the 'show village' concept seen at UK shows - with, incidentally, little new to the Amiga market - Atari took a different tack.

The company rolled out an array of new machines, and effectively repositioned its existing range of machines in the US market place. Spearheading the new ranges, as expected, was the Mega STE system, which will replace the existing Mega ST series. Interestingly, the Mega STE is being marketed very much as a business machine, leaving the 520 STE to mop up the games market place. Humming along at 16MHz, courtesy of the 68000 microprocessor, the basic Mega STE comes with 2Mb of RAM expandable to 4Mb, and 16K of RAM cache.

According to Sam Tramiel, CEO of Atari, the machine is a major step for the company. "We designed the Mega STE for the serious business professional. You'll see the difference the minute you see the system's new case design, and you'll feel the difference the moment you turn the system on."

He continued: "The Mega STE fills the gap left by the Big Three small-system producers who have all but abandoned the



• The Mega STE with stylish new monitor and IT style casing.

small business professional.

"The performance of the machine makes it the ideal solution for desktop publishing and graphics. A VME slot is provided for expansion cards, such as Ethernet; and two high-speed ports make it compatible with LAN environments. And, of course, the price makes it the system of choice for any business concerned with bottomline costs," he added.

As supplied with a single 3.5-inch floppy drive, the Mega STE retails for \$1,799.95 in the US and is available now. Plans call for Atari US to release versions with 20Mb and 40Mb hard disks at a later stage.

Also as expected, the Mega STE features the enhanced graphics user interface seen on the TT030 series, which was also released at Comdex Fall. The interface features multiple icon types, a file search capabil-

ity and increased application flexibility. According to Atari, users will find they can manipulate their files more quickly and easily than ever before.

Meanwhile, on the Portfolio front, Atari US has neatly split the marketing of this pocket PC. Low-end users are being offered a no-frills \$299.95 version which is the same as sold in the UK for just under the £200 mark.

The basic Portfolio is billed as the Superorganiser on the US market, leaving the Portfolio name to be applied to the \$500 kit which includes the PC card drive and a 128K RAM card. UK users of the Portfolio will be interested to hear that Atari US has launched a new PowerBasic compiler application development card for the machine.

Published by Spectra Publishing of Sunnyvale in California, the compiler is a compact version of the firm's popular PowerBasic compiler, which was previously known as Borland's TurboBasic, before Borland sold the rights to Spectra.

According to Atari, the compiler card allows Basic programs to run in machine code at speeds of up to 100 times that of standard Basic. The card ships at the end of the year for \$99.95. Contact: Atari US; tel: 0101-408-296-3600. Spectra; tel: 0101-408-730-9589

SLOWDOWN

Support for Portfolio



• The Portfolio now has a 20Mb HD

Xoterix is the unusual name of a small, but growing company based in West Hills, California. The company is a producer of third-party additions for the Atari Portfolio, at impressive prices. A 128K RAM card for the Portfolio, costs \$169, while a 512K card costs \$299.

Flagship to the company's product range is a 20Mb hard disk module that fits under the Portfolio, adding 0.75 inches to its height. Pricing in at \$899, the unit also includes room for up to 512K of RAM, and optional serial and parallel port modules, plus a rechargeable battery pack.

Interestingly, the hard drive unit's RAM expansion is mapped as drive D on the Portfolio, so that users can continue to use their existing drive C RAM cards as before. It will be available from next March.

For those Portfolio users with

modems, Xoterix is producing a Terminal Plus comms package for \$79.99. Available immediately, the package supports all the usual terminal emulations, as well as the Hayes AT command set and ASCII and X-Modem file transfer protocols.

Upcoming from the company is a battery-powered modem for the Portfolio, as well as a bar code reader. Several software packages are in the planning stage, according to Mark Henderson of the company, who told Express that his main aim is to produce a wide range of peripherals for the Portfolio, and at prices to keep users happy.

Incidentally, Xoterix provides support services for its products via the CompuServe on-line systems 'Aportfolio' forum. Contact: Xoterix: tel 0101-818-888-7390.



New media graphics

New Media Graphics, a new company from Billerica in Massachusetts, unveiled a \$695 hardware system for PCs that supports a multimedia environment that Amiga users have had to pay several thousand pounds for and PC users have had to previously shell out nearly five figures.

Why so cheap? According to Martin Duhms, president of the company, the full length PC card is the result of a joint multimedia project with Chips and Technologies, the well-known chip producer from California.

Super Videowindows (the name of the multi-media system) combines a Windows environment to show data on-screen from a variety of sources. The system allows PC users to play full motion video and stereo audio from any TV or similar video source, placed anywhere on the computer screen, alongside conventional data.

Facilities include scale, crop, zoom, pan, scroll, freeze, colour, saturation, brightness, contrast and graphics plus text overlays. Individual frames from any video source can be grabbed and saved to disk.

In use, the system is impressive, looking

very similar to a demonstration on the Commodore Amiga I saw three years ago. The system for the Amiga topped the £5,000 mark then, so Super Videowindows is most impressive.

Alongside the hardware - which supports a variety of complimentary packages, including HP's New Wave and Microsoft's Windows 3.0 graphical front ends - are a range of add-in boards, the most interesting of which is the Super TV tuner board at \$395. This baby, when plugged into a PC alongside the Super Videowindows board, allows any NTSC (US/Japanese) or PAL (UK/European) TV signal to be seen and heard very clearly in a resizable box on-screen.

Images can be captured and saved to disk for later use with the software or with other packages. The only slight snag is that saved images occupy several hundred K of disk space. NMG has the answer - a data compression board with a compression capability, of 200:1. Apparently this will allow data to be saved to disk, or even sent over modems or networks for onward display. Contact: New Media Graphics: tel: 0101-508-663-0666.

Quicksoft package gets lite

Quicksoft, the producers of PC-Write, the renowned PC wordprocessor, have begun shipping an updated version of their PCWrite Lite package.

Version 1.02, unveiled at Comdex Fall last week, has been updated to include multi-language spelling checkers. A Russian spell-checker is now supplied as standard with the English/American version of PC Write Lite 1.02. Another key feature of the new version (the first

edition began shipping last month) is support for EGA/VGA foreign characters. This means that, when a foreign language character set is selected, the screen fonts are adjusted accordingly, so you actually see the non-English characters on-screen.

In common with the original PC Write, PC Write Lite is shareware, requiring users to pay \$79, for which users get the appropriate disks, a 192 page user's guide and technical support for a year, including a free

quarterly newsletter.

Existing users of PC Write can upgrade to the Lite version for just \$49. The package fits on a single disk and can run in as little as 256K of free RAM, although 384K is recommended when the spelling checker is used.

Three foreign language spellcheckers for PC Write Lite were unveiled at Comdex - French and German at \$19 each, and Russian at \$29.

Contact: Quicksoft: tel: 0101-206-282-0452

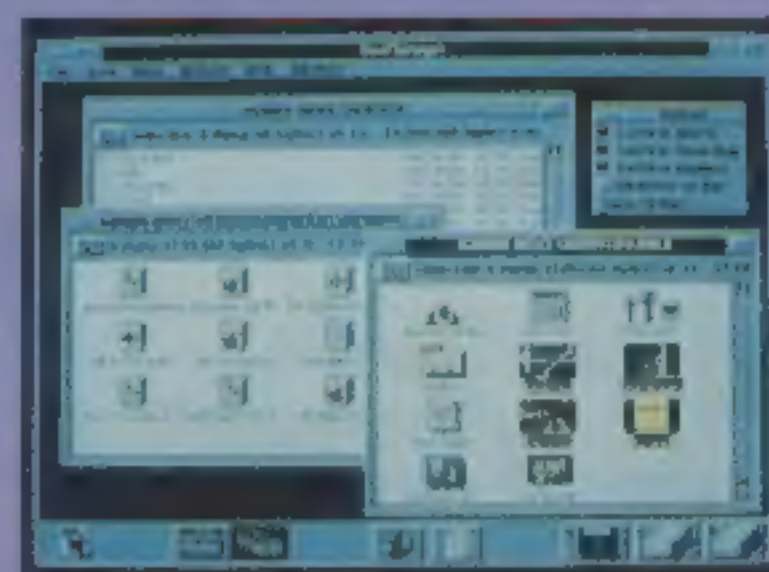
Geoworks unveils Geos Ensemble

While the rest of the IBM PC world moves on to graphical user interface (GUI) intensive products running on higher-powered PCs, Geoworks - formerly known as Berkeley Softworks - is catering for all PC users.

At Comdex Fall, the company announced it is now shipping Ensemble, its first product for the IBM PC and compatibles arena. At the same time, the Berkeley, California-based company announced bundling deals with three major US manufacturers - Everex, Laser and US Integrated Technologies.

Geoworks Ensemble is a desktop/GUI-style suite of software designed to run on almost any PC. Centrepiece to the \$199.99 package is PC-Geos - short for graphical environment operating system - a multi-tasking graphics front-end that leads into seven integrated software modules.

"Our goal was to deliver the benefits of high-performance technology found on expensive workstations to the full range of PCs in use today," explained Brian Dougherty, Geoworks chief executive officer. "We spent three years



• Geomanager - GUI file-handling for the PC

of research and development creating PC-Geos, the foundation for Geoworks Ensemble".

Key features of PC-Geos include an object oriented programming (OOP) language, a Postscript-style single imaging model for a WYSIWYG display, and a high-performance virtual memory management system. The GUI front end is also compliant with OSF/Motif, the industry-standard user interface developed by the Open Software Foundation.

The seven modules which can be accessed from PC-Geos include: Geowrite, a word processor; Geodraw, a graphics drawing package; Geomanager, a DOS-replacement file manager; Geodex, an address indexer; Geoplanner, an appointment/scheduler; and Geocomm, a communications package.

Users of the Commodore 64 may feel a touch of déjà vu about Geos. This is hardly surprising since the package was released several years on the C64 for disk users, although it was rarely seen in the UK. PC-Geos Ensemble runs on a PC, from 8088-based on up, equipped with 512K of RAM, a hard disk, mouse and CGA graphics capability or better.

Contact: Geoworks - Tel: 0101-415-644-0883



• Geoworks Ensemble - looks familiar?



• Megastor: novel storage

Portable storage

Megastor is to launch a range of portable external hard disk drives which plug easily into any PC with a parallel printer port.

The Megastor range hard disks can be installed in minutes without dismantling the computers. They are also extremely portable, so confidential data can be stored by locking it away when not in use, or transported in a suitcase. The company reckons this makes them the ideal way of upgrading any IBM compatible laptop not designed to be fitted with an internal disk.

The Megastors are available in versions ranging from 44 to 211Mb. Up to three Megastors of 200Mb each may be added to a system with sufficient parallel ports. They all contain a Seagate Technology 3.5-inch drive and are totally DOS compatible.

All Megastors, which retail from £349 for the 44Mb version, come with cables, installation software, manual and power supply. ■

Amiga games going free

As of this week, leading 16-bit retail and mail order outfit Silica will be giving away over £200 worth of software to everyone who purchases an Amiga 500 from the firm.

The Christmas deal offers buyers a great chance to stock up on loads of free games – but it's only available through Silica's three retail outlets, and via the well known mail-order operation.

Buyers will not only be given Commodore's 'in-the-box' Screen Gems bundle, but also a selection of games picked up by Silica. They include *Onslaught*, *Live and Let Die*, *Skweek*, *Rick Dangerous*, *Trivial Pursuit*, *Rock 'n' Roll*, *Asterix*, *Driving Force*, *Chessmaster 2150* and *Pipemania* all for £399.

This is on top of Commodore's own bundle which features *Shadow of the Beast II*, *Nightbreed*, *Back to the Future II*, *Days of Thunder* and *Deluxe Paint II*.

The offer is likely to displease games software publishers who hate to see bundles featuring large numbers of games.

Silica can be found on Tottenham Court Road, inside Selfridges' Central London store, or at the main centre in Sidcup. You can order by mail on 081-309 1111. ■

Sega hits for hire

Following successful trials in three London stores, the Blockbuster Video chain aims to offer Sega software for rental in all its stores by this time next year.

The chain is renting out games for both the Master System and Megadrive at £3 for three evenings.

Trials carried out by the company at stores in Slough, Hayes and Walworth Road over the past few months, renting out both Sega and Nintendo games, showed that the Sega was the popular choice with customers.

But while the company is con-

centrating on promoting the Sega in other stores, it has not shelved plans for the Nintendo which will continue to be hired in certain stores.

"We aim to give the customers what they want, and the Sega seems to be it," reckons Blockbuster's Mike Oakley.

The company will also be selling Sega consoles and software. The first new shops to open Sega departments are in Sidcup, Erdington (Birmingham) and Edgware while on December 15 stores in Luton, Leicester, Mile End and Southend will be added to this list. ■

AST launches upgradeable notebook

US company AST has entered the portable computing market with what it reckons are the first upgradeable notebook PCs.

The Premium Exec was launched at Comdex in the US last week, and should be available in the UK early next year.

There will be two versions, the Premium Exec 386SX/20 with 2Mb of memory and the 12MHz Premium Exec 286/12 with 1Mb of memory and can be upgraded to the 386SX. Both are expandable to 8Mb, have VGA and 3.5-inch, 1.44 Mb diskette drives. They weigh about 2.8kg and have a battery life of over three hours.

No UK prices have yet been announced, but US prices start at \$2,995 for the 386SX and \$2,495 for the 286, with the upgradeable option at \$499. ■



• Stunt Car Racer: another soon

Stunt sequel set for summer

Everyone driven crazy by Microprose's stunning hit Stunt Car Racer a couple of years back should be delighted to learn that follow is due to burn rubber next summer.

The original game was a fast moving driving simulation where there was little room for error. One false move and the car plummeted hundreds of feet – the inspiration for a couple of car advertisements around at the moment, perhaps.

Development is reaching its final stages at the moment on the sequel, which the company claims has some surprising variations on the original theme. ■

New console will go beyond ST technology

ATARI REVISES PANTHER PLANS

Atari has scrapped plans to launch an ST based games console, and has opted instead for developing technology designed to over-shadow both the Commodore Amiga and Sega Megadrive.

The so-called ST console has been on the agenda for the past two years (*Express* passim) but Atari now feels such a machine would be behind the times.

Developers in Cambridge and Dallas are working on a new machine – suspected to be based on RISC technology – which will be launched next September. The firm has decided to call its console Panther – the code name for the apparently ill-fated ST games machine.

Atari's UK boss Bob Gleadow told *Express*: "I do accept that a games console from Atari would have to be superior to both the Sega Megadrive and the Amiga." He decided not to comment on technical specifications, but said that ST compatibility is no longer a priority.

Gleadow insists that Atari has a number of development options any one of which could turn out to be the long-awaited top-end console. But at least nine British software



• Gleadow: waiting on top-end games console

developers are aware of the firm's plans and have already begun software development for the machine.

The British operation is being orchestrated from Cambridge, while in the US, software publishers are in contact with developers in Dallas.

Gleadow hinted that a prototype would be shown at the Las Vegas Consumer

Electronics Show in January, but said that only trusted industry partners would be allowed into Atari's stand to inspect the machine.

The firm should have launched a games machine a year ago, but the disastrous affair with US retail chain Federated – which cost Atari millions of dollars – coupled with the discovery of the handheld Atari Lynx, have caused delays.

President Sam Tramiel has already stated in an interview with trade mag *CTW* that Atari's console would be a "16-bit super-graphics console based on brand new technology."

It is understood that a price tag of £140 has been provisionally agreed. Atari suspects that the Sega Megadrive, which currently retails at £180, will be cut to about £150 by this time next year.

Atari is well aware of the fact that it must either involve itself in the mushrooming console boom, or face a shrinking presence in home entertainment. The firm's success was originally built on primitive games consoles launched at the beginning of the 1980s, and many people still associate the Atari name with dedicated games machines. ■

Games and TV giants team up for all-in-one solution

SHARP'S NEXT GENERATION

Nintendo, the seemingly unstoppable console manufacturer, and Sharp, one of the world's leading suppliers of television sets, have teamed up to produce an original angle on interactive home entertainment.

As of next month Japanese buyers will be offered a 21-inch colour TV set featuring a built-in Super Famicom games system. Buyers of the kit will be able to play a Nintendo game by slipping a cartridge into a slot on the upper body of the TV set. A control pad is connected to the TV.

It's possible to pause your game while something good is on the telly and then quickly go back when the ads come on. With 'Picture in Picture' capabilities you could be really multimedia, by playing games and watching TV at the same time.

The Sharp launch co-incides with that of the 16-bit Super Famicom (Family Computer) itself in Japan. That costs the equivalent of £100, while the TV version retails at about £600.

Sharp, which secured Nintendo's technology through a licensing agreement, hopes to

sell about 10,000 TV games sets every month. Sales of the Super Famicom are expected to reach one million within a few months.

Games to be launched for the system include familiar hits such as *Populous*, *Sim City*, *Shadow of the Beast II* and *Dungeon Master*, as well as new titles like Capcom's 'beat-'em-up' *Final Fight*, sideways scrolling 'shoot-'em-up' *Gradius III*, *Super Mario World* and racing game *F-Zero*.

The Super Famicom has been described as the most complete games system on the market, incorporating features hitherto only seen in arcade machines.

The CPU incorporates a customised 16-bit DMA (Direct Memory Access) circuit to speed up graphics and sound functions. It comes with 64K of Video RAM and runs at auto-changeable clock speeds of 1.79MHz, 2.68MHz and 3.58MHz.

It can display 128 colours on screen from a palette of 32,768. One of its most innovative features is the ability to handle objects in various sizes and scale them up or down in real-time.



• Famicom inside a TV: Sharp's clever telly

This means that a figure moving towards you becomes larger, in a very life-like way. The computer handles the scaling-up without the figure having to be re-drawn. This makes for excellent three dimensional capabilities.

Audio is handled through 8-channel stereo sound with a 16-bit PCM (Pulse Control Modulation) chip.

It also features a 28-pin edge connector suggesting that a CD-ROM drive is in the offing. Nintendo also plans to launch an add-on modem for home shopping, as well as a keyboard.

A UK launch has been pencilled in for September 1991 with a retail tag of £200. Sharp has yet to decide whether it will offer the Famicom television in Europe. ■

Soviets are ST mad

The ST is set to take Russia by storm, but unlucky Soviet youngsters won't be playing *Xenon II*. The computers are going to be used to train them up for computer related careers.

Atari Germany has won a contract to supply the Youth Computer centre in the USSR with \$65,000 worth of computer, software and peripherals. The centre offers a free education teaching young Russians about using computers.

Two thirds of the shipment will be Atari ST systems, the rest being PCs and other peripheral hardware.

The company reckons it won the contract in the face of tough opposition from Asian computer companies because of the flexibility and versatility of the range. "The Atari ST is the ideal computer for this kind of training," said an Atari spokesman. ■

Caring advice from Dr PC

A computerised Freud that prompts you to talk about your childhood might seem like something out of a Woody Allen nightmare, but the prototype of just such a program was on show in London this month.

Professor Kenneth Colby of the University of California School of Medicine displayed the £100 program for the PC in front of an audience of psychiatric experts.

Patients too shy to face a real psychiatrist type their angst-ridden confessions into the keyboard and the computer replies with sympathetic on-screen questions encouraging the patient to talk through their problems.

When told that a user thought everybody at work hated him it replied: "It must be agonising to feel like a worthless day after day."

The program describes itself as a personoid, "which is like a person only in that I can converse a bit," but refuses to speak any further about itself, eager to carry on probing into your own problems.

Not all the experts present were convinced, though. Dr Cosmo Hallstrom, a consultant psychiatrist at Charing Cross hospital, who tested the program said, "I never got anywhere with it. It didn't seem to understand what I was saying and it went off at obscure tangents. I think it needs to be better developed and more carefully thought out."

Perhaps it ought to see a psychiatrist about the problem it has relating to people. ■

Cartridge pack for C64



• C64 GS: goodies extracted for computer bundle

Commodore is to offer C64 owners a chance to get involved in cartridge gaming, with a new package of games and joystick.

The pack features all the goodies bundled in with Commodore's C64 Games System console, and costs £29. Buyers will be offered four cartridges - puzzle game *Klax* from Domark, Fiendish Freddie's Big Top Of Fun from Mindscape, System 3's cartoon adventure *Flimbo's Quest* and old classic *International Soccer*. Commodore's badged joystick is

also included.

All C64 computers come with a cartridge port as standard, indeed, *International Soccer* was originally launched on cartridge only format. Its manufacturer is keen to promote production of cartridges in favour of piracy prone tapes. The C64 tape loader has caused Commodore all sorts of technical problems, many of which have not been resolved.

The original Games System bundle (including console) costs £99. ■

ELSPA attacks back-ups

Games software publishing organisation ELSPA is taking tough steps to clamp down on back-up utilities which, it claims, encourage piracy.

But while software publishers have rallied in support, appeals to magazine publishers have not been met with the same enthusiasm.

ELSPA has asked software companies to start placing warnings on the disks which state: "It is illegal to back-up or copy the software contained on this disk." Requests to magazine publishers to pull adverts for these products have not been met in the same spirit. Roger Bennett, ELSPA secretary, admits: "We have not received any support in writing yet which is obviously what we are waiting for."

The problem ELSPA faces is that the devices are not illegal and as long as an extract of the 1988 Copyright Act concerning

piracy is in the advertisements, there is nothing illegal about magazines running them.

Bennett said in the trade press last week that if any magazine did carry advertisements for back-up devices aimed at the entertainment user, "They are in breach of copyright and will be pursued as a pirate."

This statement is a bit premature, as it is based on Article 5 of a software copyright law which has not yet been passed by the European Government.

Datel manufactures the popular *Synchro Express II* back-up device. A spokesman claimed: "None of our stuff infringes copyright anyway, it's just for PD copying really."

Many magazines believe that ELSPA should be tackling the problem at its root by trying to bring legal proceedings against those companies which infringe the law. ■

NIBBLES

● TopLevel Computing is launching two low-priced word processors. Version Two of the company's TopCopy Plus, aimed at small and medium sized businesses, begins shipping this week retailing at £99. The 1991 edition of TopCopy Professional is due next February. Featuring a save as you type function, it will cost £199. The company can be contacted on 0453 753955.

● Texas Instruments is to follow up the recently introduced Travelmate 2000 laptop computer with a 386SX model. The machine was introduced at the Comdex Show in the US last week and should be available in the UK early next year.

● Digital Integration has high expectations for its latest release, AFT 2, in the US. The game, described by the company as "an interactive strategy game with a combat fighter theme," will be distributed there by Cinemaware under the title Air Strike USA.

● Olivetti is to shed 7,000 of its 55,000 workers worldwide in response to the downturn in the international computer market.

● Cheetah aims to start a whole new trend in novelty joysticks with the Ninja Tortoise due for release in January.

With thinly disguised parallels to certain mutant heroes on the big screen this Christmas, the company obviously hopes the joystick will appeal to kids. It is green and ergonomically shaped with a shell that acts as the directional movement control while the eyes act as fire buttons. The Ninja Tortoise is expected to retail at under £10.

● Annual revenue from the sale of micro, mini and mainframe computers will grow from \$300 billion this year to nearly \$700 billion by the year 2000, according to a report by major US consulting and research company The Gartner Group. Hot products for the next decade, the report predicts, include palm-top computers, wireless phones, image management and speech recognition. Biggest shock is the suggestion that Fujitsu will be threatening IBM as the world leader by the beginning of the next century.

● Atari has announced an increase in sales of 9.5 per cent to \$89.1 million for the third quarter of 1990 as compared to \$81.4 million for the same period last year. Atari President Sam Tramiel said, "The Atari TT030 system based on the Motorola 68030 microprocessor which started shipping in the third quarter has been well received. In addition the company is shipping nine software titles for the Lynx."

By Christmas the company reckons to have 17 Lynx titles available. ■

Cops computer shortfall

The Government has been forced to step in with a 50 per cent computer budget increase for the police force after an estimated £80 million shortfall in funding has led to a string of suspended and cancelled projects.

Home Office Secretary David Waddington announced last week that just £60 million would be made available to forces, most of which would go towards computers.

A report by the Police Federation in September highlighted the problem. Arthur Isaac, director of McDonnell Douglas' central government and police unit, said: "There have been a number of forces which have deferred or even cancelled projects. Others have continued with projects without having

any confirmation of further funding."

But some police forces are still worried that this may not be enough. For example, Greater Manchester Police was forced to postpone a £4.5 million systems development earlier this year. Although the news of extra funding is welcome, the force is not confident that it will enable the project to be resumed.

"Police forces have submitted capital expenditure programs to the Home Office for ratification. But even if the program itself is ratified, only 51 per cent of the funding will come from central government. The rest still has to be found locally," said a GMP spokesman. ■

• Scotland Yard: more money for computers



'Strategic decision' to scrap software

END OF A LINE FOR AMSTRAD

Amstrad is pulling out of the software market, after six years of offering home and business users affordable packages.

The decision appears to have been based on the firm's growing apathy toward its dwindling software activities, as well as a more competitive attitude among dedicated software publishers.

Amstrad's software publishing operations, already restricted to the PC market, have been scaled down during the past few months. The move has not been

well publicised, Amstrad is calling this as a simple "strategic" decision.

"We've done our job. When we started we needed to support our machines with cheap software. Over the past few years economies of scale have enabled other software publishers to bring down their prices," said an Amstrad spokesman.

The company first dabbled in the software in 1984 with leisure software for its first computer the CPC 464. The shift to PC products came with the introduc-

tion of the PCW8256 and the PC1512 with the philosophy that people who bought a low cost machine would also want low cost software.

But Amstrad seemed to lose interest in this area when it did not replace Software Sales Manager Mike Mordecai at the end of 1988. When his assistant Caroline French left also left a couple of months ago, the fate of the software wing was sealed.

Amstrad's official line is that the move leaves it free to concentrate on hardware. ■

Red jet sim
for 16-Bit



• MiG-29 Fulcrum: aerial action.

Former 8-bit favourite Soviet MiG-29 Fulcrum has been launched onto the 16-bit market with enhanced graphics and expanded gameplay.

Publisher Codemasters reckons the game is the fastest 3D flight simulation available. The company has spent a year re-writing the original 8-bit version for the ST and Amiga.

Soviet MiG-29 Fulcrum is an aerial battle confronting the player with stealth planes, warships and ground vehicles.

Available now for £6.99. ■



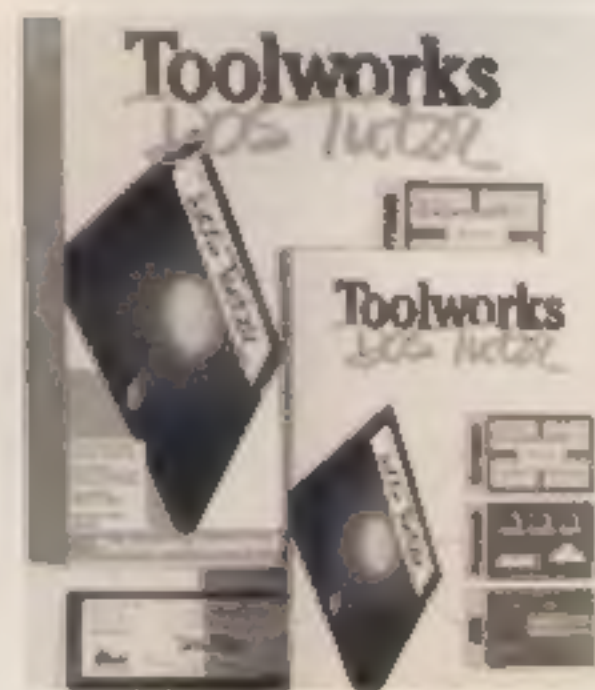
• This is the new robust, sealed 101-key PC compatible, Half-effect keyboard from Honeywell. Designed for industrial applications and environments, the keyboard can withstand a great deal of moisture, dust, grime and other nasty substances seeping between its keys. Available now for around £250. ■

As easy as aPC

Software Toolworks has upgraded its Toolworks DOS Tutor package so that the complete PC greenhorn need never quake at the sight of the C:>> prompt again.

Toolworks is a complete interactive learning program for the inexperienced PC user. The company reckons the new version will teach you everything you would ever need to know about your machine including communications, networking, tape and optical drives, windows, mice, desktop publishing and EGA/VGA graphic cards.

The program is written in easy to understand language and is easy to use, with help available at the touch of a button. Users are guided through the lessons by the program itself using visual representations of DOS com-



• DOS Tutor: get to grips with your PC

mands and functions.

The new version of Toolworks will be released at the beginning of December for £29. If you have the old version you can pick it up for just £7.99 if you send the original disk to the company. Software Toolworks are on 0444 86761. ■

Exclusive first picture of Sega's unique PC

INTRODUCING MEGADRIVE PC

It's another one of those fabulous ideas which the Japanese are so infuriatingly good at coming up with. As we've mentioned before, Sega and IBM Japan have teamed up to produce a 16-bit Megadrive compatible PC (or even an IBM compatible Megadrive).

This is the first published picture of the still unnamed machine in Europe, and it looks very nice indeed. It's an exceptionally sleek black option with delicious curvaceous lines. You'll note the famous Megadrive joystick, the 3.5-inch disk drive, Megadrive cartridge port and 14-inch colour monitor.

The idea, and it's not unattractive, is that buyers will be offered the best in gaming technology as well as a professional PC. It will also be possible to plug in Sega's CD-ROM drive for extra quality gameplay.

Here in the UK, everyone is keeping quiet about the machine's launch, although informed sources are talking about an announcement in the spring, with full availability by September. Prices could start at around £799, making it one of the most attractive computers on the market.

• **Megadrive PC: bound to be a winner.**



Good riddance to wobbly lines



• **Testcard: no sign of a girl with a blackboard.**

If you think your monitor is turning circles into eggs or columns seem to be an inch further to the left at the bottom of the screen than the top, then Testcard is the program you've been looking for.

Testcard is a simple and cheap way of checking the alignment of PC computer monitors from Black Star. It reproduces all the standard patterns and colours used by professional service engineers including focus, dots, verticle and horizontal lines, grating, shading, checkerboards, circles and something intriguingly called multiburst. There is a choice of 16 foreground colours and eight background colours.

Available on both 3.5 and 5.25-inch floppy disks, Testcard comes with a comprehensive manual allowing any computer user to quickly determine whether their monitor is, in fact, working properly. It retails for £29.

Sweeter studies

Kudlian Soft has launched a package of educational software called Data Sweet, written specifically to meet National Curriculum guidelines on data handling.

Available for the Archimedes, the machine most used in schools, Data Sweet is a RISC OS desktop package designed to develop children's data handling skills. Each application can be used progressively, from basic graph drawing to full database searches and spreadsheet calculations.

Applications include DataFind, a sophisticated database DataCard, a card index program and DataCalc, an introduction to using spreadsheets. Data files created in any application can be imported into a central graph drawing program, DataPlot.

The basic stand alone package costs £30. For further details call 0705 378266.



• **Hoskyns Insight, the PC manufacturing arm of Hoskyns Group, has hurled itself into the competitive cut throat world of sports sponsorship.**

The company has joined the likes of Commodore, Philips and NEC in sponsoring a foot

ball team. But Hoskyns hasn't bothered with such lightweights as Chelsea, PSV Eindhoven or Everton – it has decided on Midlands League under-13 aces Worcester Colts (above).

Marketing manager Penny Jacey enthused: "We know how to back winners."

Tragedy strikes Apple conference

French police are investigating the death of a senior Apple employee at the company's recent European conference in Cannes.

Apple UK's service administrator Frank James was drowned in a hotel swimming pool following a Friday night out on the town.

Some 200 Apple staff were staying at the hotel on the night of the tragedy, 12 of whom, who were drinking at the bar on the night of Friday 9 November, have been interviewed by the police. None were present at the time of the incident.

Police suspect James may have been pushed into the outdoor pool as a prank. A spokesman for Apple expressed deep regret at the death and said that James had been a very popular Apple employee.

Third Coast ad rapped

A Third Coast Technologies' advertisement claiming that its Hypercache ST accelerator card could double the speed of any application has been criticised by the Advertising Standards Authority.

A complaint was made to the influential ASA that the product could do no such thing. Hypercache was also said to be "100 per cent compatible with all applications" – a complainant pointed out that this was not so.

The ASA criticised Third Coast for its inability to substantiate these claims. The advertising has now been amended.

THE WEEK IN VIEW

Express' first Editor, Peter Worlock, argues that Apple's new low-cost range will only succeed if the company changes its dealership policies.

You can imagine the same conversation happening a thousand times between now and Christmas. The would-be Mac owner goes into Dixons or Comet and enquires about these new, cheap Macintoshes. The sales person explains:

"We don't sell those, and besides [insert any Mac myth here]. However, we can sell you an Amstrad/Amiga/ST which will do everything the Mac can do, and it's cheaper, and there's more software."

Another thousand lost sales for Apple.

Then there's another thousand conversations where the prospective buyer summons up the nerve to step inside the hallowed portals of an Apple Centre.

"I am interested in one of these new, cheap Macintoshes," the customer will say.

"Oh, yes?" the sales executive will reply, with obvious distaste.

"But I have this Epson printer that I want to keep. Can I use it with a Macintosh?"

"I'm afraid not," the executive will answer in wrongful ignorance. "Macintoshes only works with Apple printers."

"Oh dear," the customer will say. "I'll go and buy an Amstrad/Amiga/ST then."

Another thousand lost sales for Apple.

The sad fact is that it takes more than technical excellence to make a successful computer

(as witnessed by Steve Jobs' NeXT machine). And it also takes more than cheap prices (as witnessed by Amstrad's ill-fated PC-200).

In the last three years Apple has done a remarkable job in challenging the dominance of IBM-compatibles – but only in putting Macs on office desktops.

An increasing number of PCs have also been bought for use at home by people who work with PCs in the office.

That's a market the Mac has never been able to crack. Now, with the launch of the Classic and (when it arrives early next year) the LC, Apple is hoping for a share of that new market.

But it needs a new way of selling Macs to do it. Although Apple Centres have been a great success in winning business respectability for Apple, they are specifically geared towards the corporate customer.

Even the few that are willing to deal with individuals will find it difficult to attract those new buyers into the shop. For the average computer user, an Apple Centre is about as inviting as a dentist's waiting room.

If Apple is going to fulfill its renewed promise of making "computers for the rest of us", it needs a new class of dealer.

The Mac has always been excellent; now it's cheap as well. All that's left is to make it easy to buy. ■

Hey! Get in touch with us! *Express* is always on the look out for news leads and tip-offs – and we'll pay you for passing them on too!

Also, if you have any burning ideas for features or surveys then drop us a line – remember, we cover every aspect of computing.

You can contact us directly on :

Voice : 0225 442244

Fax : 0225 446019

(All news leads and tip offs will be treated in strictest confidence)

Or you can leave E-Mail for us on :

CIX @ astorer

GOLD @ 84:TXT152

COMPUSERVE @ 100012, 1075

PRESTEL @ P McDonald

Express Access

NEW COMPUTER EXPRESS

EDITOR • Andy Storer

DEPUTY EDITOR • Stuart Anderton

NEWS EDITOR • Colin Campbell

NEWS ASSISTANT • Dave Golder

TECHNICAL EDITOR • Keith Pomfret

STAFF WRITER • Tim Smith

PRODUCTION EDITOR • Julie Tolley

SUB-EDITOR • Steve Coulter

ART EDITOR • Amanda Cook

ART ASSISTANT • Matthew Williams

CONTRIBUTORS:

Steve Carey • Robin Alway • Jason

Holborn • Rod Lawton • Hadyn Fitz-

Williams • Mark Higham • Adam Waring

Richard Frederick • Sean Masterson

Ken Coumarin • Steve Gold • Mary

Branscombe

ASSISTANT PUBLISHER • Jane

Richardson

CIRCULATION DIRECTOR • Sue Hartley

ADVERTISMENT MANAGER • Helen

Kirkhope

AD EXECUTIVES:

Phil Davenport • Tim Partridge • Cheryl

Beesley • Jason Spice

AD PRODUCTION • Tracy O'Donnell

AD TYPESETTING • Terry Turner

PUBLISHER • Graeme Kidd

ABC audited circulation

January-June 1990:

21,251 copies per week

We regret we cannot enter into any personal correspondence. Technical enquiries should be addressed to Tech Tips at the address below.

While every care is taken in the preparation of *New Computer Express*, Future Publishing cannot be held responsible for the consequences of any errors that may occur.

© Future Publishing Ltd • 30 Monmouth

Street, Bath BA1 2BW • Tel: 0225

442244 • Fax: 0225 446019 •

Subscriptions: The Old Barn,

Somerton, Somerset (0458) 74011

• Printed by Redwood Press,

Melksham, Wilts

• Distributed in UK and Eire by MMC

Ltd (0483 211222), rest of world by

Comag (0895 444055)

COMING NEXT THURSDAY

The Gamers' Guide

An essential 32-page supplement for the Xmas games buyer

Hand to Hand

Sega's Gamegear and NEC's PC Engine handhelds, head to head

The STAmiga

Just how well does Chameleon emulate an ST on your Amiga?

PLUS

- Hot news
- Front End
- Games Week
- The Console Zone
- Whole Wired World
- Centrefold
- Tech Tips
- Circuit City
- Express On-line
- Express Mail
- The PD Column
- Programming
- Columns for: Amiga, Arc, CPC, C64, Macintosh, PC, Spectrum and ST

AND

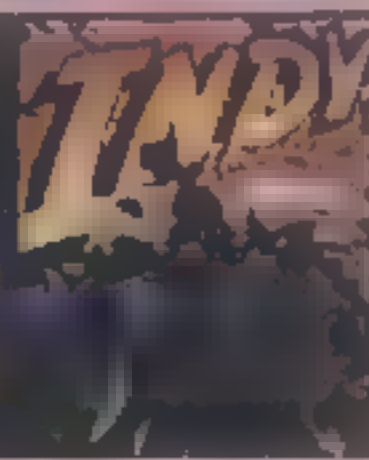
Your chance to win the perfect Protext v5 word processor for your machine

AT YOUR NEWSAGENT ON THE 29th

ATARI ST

"E" & "FM"

TURBO



also available the 520STFM Discovery Pack!

The Official NEW Atari 520STE Turbo Pack has arrived!

Includes:
 Atari 520STE Computer Keyboard
 512K built in Random Access Memory
 Built-in 1 meg Double-Sided Disk Drive
 Built-in TV Modulator
 Superb 4096 Colour Graphics
 8 Channel Digital Stereo Sound
 Four Joystick ports
 Light Gun/Pen Facility
 MIDI inputs for music keyboards
 RAM Expansion capability
 Atari Mouse and Joystick
 and all connecting cables to get you up and running on your home TV set

Also includes:
 Indiana Jones and the Last Crusade
 Dragon's Breath
 Blood Money
 Impossible Mission II
 Human Killing Machine
 Anarchy
 Outrun
 Super Cycle

Also includes:
 STOS Games Creator
 Hyperpaint II - uses all 4096 colours!
 Music Maker II - uses the new stereo sound!
 First BASIC Programming Language

Also includes:
 Drivin' Force
 Trivial Pursuit
 Pipermania
 Rick Dangerous
 Chess Player 2150
 Metacompo BASIC

Also includes:
 Rock'n'Roll
 Asterix
 Skweek
 Onslaught
 Live & Let Die
 Mouse Mat

**Total package price includes VAT and Next Day Delivery by Courier*
 Don't delay - Order now! 24Hour Credit Card Hotline Telephone (0908) 378008**

How to Order

By Phone: Call our Credit Card Order line on (0908) 378008 and quote your card number and expiry date along with the details of the goods you require. We accept ACCESS, VISA, QUICCARD, MASTERCARD, AMEX the new Direct Debit cards like Barclays Direct and we also accept Lombard CreditCharge Cards.

By Mail: Simply write down your requirements and send in your order to us by post along with a personal cheque, bankers draft, building society cheque or postal order made payable to "DIGICOM COMPUTER SERVICES LTD".
 *Please note: Personal cheques require 7 days clearance before despatch.

Catalogues

Ring or write to for our latest Atari catalogue listing hundreds of products available for this versatile Home Computer. We stock COLOUR PRINTERS, STEREO COLOUR MONITORS, EXTERNAL DISK DRIVES, MEMORY EXPANSIONS, HARD DISK DRIVES, Atari BOOKS, FRAME GRABBERS, DIGITISERS, SCANNERS, WORD PROCESSORS, DATABASES, SPREADSHEETS, ACCESSORIES and of course hundreds & hundreds of games and all at well below recommended retail prices!

Digicom offer you the very best in customer after sales support with 12 month warranty on all Computer Hardware. All units are full UK specification with 30 day replacement guarantee on faulty items and FREE collection of the defective units within this period. And should you ever need any technical advice our experienced and helpful staff are available on the telephone or in our showroom. Remember there are no hidden extras, all prices are fully inclusive of VAT and next day courier delivery. Prices and specifications are subject to change without notice.

only.....

£379

or spread the cost with our finance facilities - written details on request.

DIGICOM

36-37 Wharfside Watling Street
 Fenny Stratford Milton Keynes MK2 2AZ
 Telephone (0908) 378008 - Fax (0908) 379700
 Showroom Hours - Mon to Sat
 9.00am-5.30pm

■ Shedding Light

I have just got my hands on an official MegaDrive and, having noticed the borders that are present at the top and bottom of the screen, I was wondering if games will ever be released that can take full advantage of the extra number of lines that the PAL TV standard provides. I have noticed several mail order places stating that they have a PAL version of *Super Monaco Grand Prix* - will this give owners a full screen display?

And when UK software houses start producing software, will they use the PAL standard or will we have to put up with lots of reduced-screen games like Amiga owners do at present?

Michael Hoey, Glasgow

According to the people at Virgin Mastertronic, it's simply not cost effective for companies that produce games for the Sega to create versions for specific countries. So it looks like your prediction about reduced-screen games could well come true. There is, however, a possibility that some game publishers will go for PAL versions as well as NTSC games - which might be the case with *Super Monaco Grand Prix*. Why don't you ask one of the mail order places before you buy?

H F-W

■ Cautionary Tale

Recently, I visited a local radio and computer rally at Bingley Hall in Stafford. Among the usual bargains, I picked up what I took to be a second-hand copy of Hippo-C, a package from a company called Habba Systems Inc. I bought it from the Page 6 stand, and I think they are a user group.

On returning home, I tried Hippo-C and all seemed well until I tried to back it up. The back up wouldn't run. Being a programmer by trade, I realised that some form of protection existed, and so out of curiosity I tried to investigate the boot sector with a virus killer. Guess what I found? Virus Killer wouldn't fire up and gave me a message to say that my machine was already infected. The virus had also spread to four other disks that I used before I



EXPRESS MAIL

Haydn's firmly back on the case - so get writing if you fancy your chances of winning one of his fivers

Write and tell HFW what you think about anything under the Sun! Reach him at: **Express Mail, 30 Monmouth Street, Bath BA1 2BW.** Sorry, no personal replies, even with an SAE, as we're too busy writing the magazine.

realised what had been going on.

The virus in question had within its code the text: "The little green goblins strike again" and the only outcome of the virus so far as I could determine was that the desktop menu bar was turned upside down. It was easily exterminated with a little careful thought and a clean boot disk - but it got me thinking. What if someone less experienced were to buy second-hand software in good faith, and didn't realise what else they had got for their money?

It should be remembered that if you are not sure about the origins of a disk, then never boot from it, scan it if a virus hunter is available, switch your machine off for at least two minutes after using a dubious disk - and keep all your important disks write protected.

By the way, do you or any of your readers know where I can get a manual for Hippo-C as the box I acquired hadn't got one. Perhaps the missing manual should have warned me?

John Bent, 99 Lower Lodge, Armitage, Staffs WS15 4AY

You are not the only one to get caught with the Green Goblin virus, John. As another of my correspondents, John Garvey, pointed out to me - the

December Issue of *Atari ST User* has a cover disk with the Green Goblin virus on it. (See this issue's FrontEnd for more details.) With viruses, you simply can't be too careful - you can't even rely on a virus checker or virus killer one hundred per cent - a new strain can always slip through.

'Safe Computing' isn't difficult though - just take the precautions John sets out and you're unlikely to get caught. But why were you trying to make a backup in the first place, eh John... sure you weren't being a teensy bit naughty there?

H F-W

■ ...Till They Drop

The article 'Search For Sound Advice' reminded me of the time about four years ago when I was considering adding a disk drive to my Amstrad CPC464. The salesman in one shop I visited (that didn't have any drives in stock) was insistent that floppy disks would be a thing of the past within a couple of years, and everyone would use ROMs!

David Bozon, Nottingham

Some people are still committed to the tape deck, as my next correspondent makes clear

...H F-W

■ Getting It Taped

I would like to see more articles on programming in BASIC - or advice on where to get books - the subject, since no-one seems to be advertising them any more, other than for the Amiga.

Where does one get software for these so-called obsolete computers, many of which still work perfectly - preferably on tape, since we can't all afford disk drives?

Are there any public domain libraries catering for tapes?

There is still plenty of data recorded on tape - even in business and scientific applications. Tape recorders are not yet obsolete, despite the disadvantages of delay in retrieval over the disk drive.

Walter Davies, Worleston, Cheshire

Your first question is relatively easy to answer - if you really can't find what you're looking for by scanning through Shopping Express, try giving Computer Manuals a ring on 021-706 6000, and tell them *New Computer Express* sent you. They are one of the biggest mail-order distributors of books and might send you one of their catalogues if you ask nicely.

As for your next two questions - well, unless you tell me which machine you

■ Addicted to computers?

Please find enclosed my entry for the 'all my computers put together are better than all your computers' competition. As you can see from the photo, my camera is not as good as your camera.

If you look hard, you can pick out 13 machines in the photograph, but the Texas TI99A, Lynx and Atom do not work and have no power supply adaptor. What was/is in the rest of the picture is an Atari ST, an Aquarius, an Oric 1, an Atari 800, a Memotech 512, a Tatung Einstein, a Spectrum 48K, a Commodore C16, Plus 4 and 64, an Acorn Electron and a Dragon 32 which seems to have melted internally.

Since then, I have also obtained a Spectrum +128, a ZX81 and an Amstrad CPC464. I think that comes to a total of 28, but does not include most of the 8-bit Atari

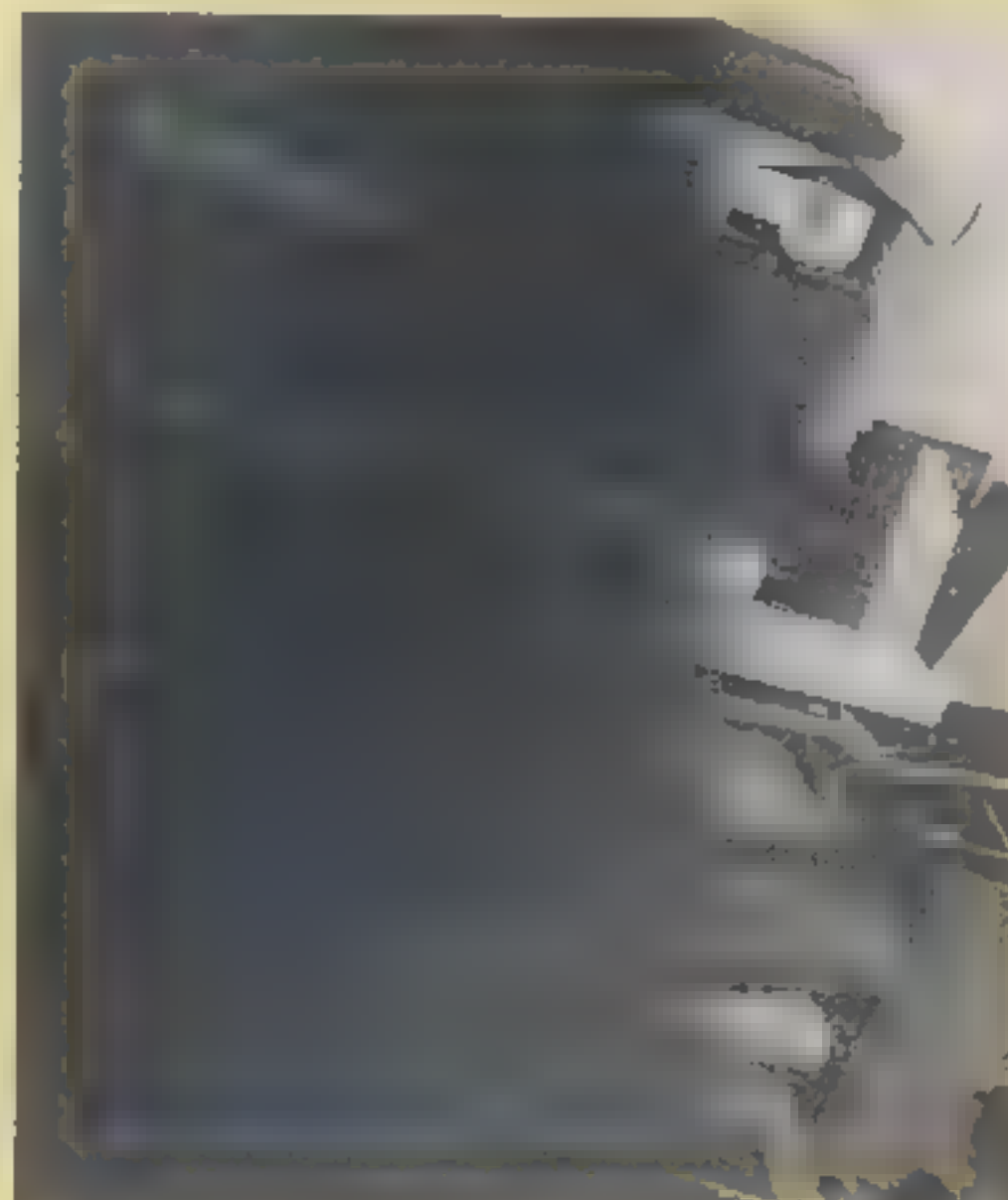
range (but the count does include the games consoles I have - Atari 2600, 2600jnr, Colecovision, Vectrex, Intellivision, and Philips G7000 which I also have.)

Daniel Wood, Cardonald, Glasgow.

Hmm. If I wasn't such an open-minded fellow, I might just think I was being conned a bit here. But never mind. Have a fiver with my regards - maybe you could use it to print some tickets and start a computer museum...

H F-W

• Not a particularly good example of photographic technique!



are trying to find tape software for, I can't help. If there's one thing I'm not, it's clairvoyant Walter. Your best source of information will be an appropriate user group - and Shopping Express has got the details.
H F-W

■ More SAM Moans

To call a SAM Coupé a 'Super Spectrum' is like calling a Jaguar a 'Super Mini'. The SAM Coupé has phenomenal graphics facilities, easily equal to an Amiga or ST, a superior BASIC, and it can produce wonderful sound effects. The disk drives are excellent, certainly better than those of the +3, and all we need is some serious software, specially written for the SAM.

It is a pity that programmers are wasting their time on producing a number of emulators to use Spectrum programs on the Coupé. All you end up with is a Spectrum with disk drives, and all the new SAM facilities are wasted. But a SAM Tasword is the way, and the game are getting better. The mouse for use with the superb FLASH graphics program is nearly ready, and a Voice Box is on the market. I am waiting for a spreadsheet and especially a database.

If you can't give SAM a column of its own (yet!), by all means give it coverage in the Spectrum column.

Dr Gerhard Behr, Brierfield, Lancs

'...is on the way...', '...getting better...', '...nearly ready...', '...I am waiting for...'. Exactly the problem with the SAM - it's not yet a mainstream machine supported by a host of products. But I'll send you a fiver for sending in the most reasonable letter about the Coupé yet, Dr B. Which is more than can be said for my next correspondent.
H F-W

■ SAM Rant

What is all this about stopping the SAM Coupé column? Do you know what you are doing?

I am a former reader of *New Computer Express*. As a reader, I fall into the category of hobbyist. I like to read about the computer I use.

Is the reason for dropping the column anything to do with it being 8-bit? If so, why do you still run columns for the C64, MSX, BBC etc? Maybe this is not the reason. Perhaps you don't like to encourage anyone to buy a new 8-bit computer?

The Coupé is going from strength to strength, as far as software and hardware are concerned. People are working hard to support it. Games and utilities are appearing weekly. (Several paragraphs of ranting removed in the interests of avoiding tedious wibble in the 'My Coupé is better than anything else in the world' vein - H F-W)

It could be that you have taken a dislike to Alan Miles and Co - if this is true, why should you take it out on your readers?

I used to like your magazine before you started your current anti-Coupé campaign. I like to read about all aspects of computing and not only my own comput-

ers. I could be accused of being afflicted by a conspiracy complex, but until you stop ignoring my computer I will still browse through your magazine at the newsstand, but don't expect me to buy it!
D G Whitmore, St Helens, Merseyside.

Right. That's it. I've had enough of this Coupé Crying, and of idiots like you Mr Whitmore. Let me set the record straight once and for all.

For start, if you were to read *Express* properly, rather than just flip through the pages every week looking for the old quarter-page column on the SAM Coupé, you'd have spotted one or two things. To wit, there is no longer a column for the MSX, nor is there one for the BBC B, or even the QL.

We made these changes to make more space, and at the same time upped the number of editorial pages in the magazine. We have upped the space we give every week to the Spectrum, and our trusty columnist Robin Alway is more than happy to mention what's happening in the world of the Coupé.

Sadly, Robin does not live in the dreamworld that you inhabit. You speak of Coupé games (plural) and utilities (plural) 'appearing weekly'. So where are they all then? So why isn't Robin Alway (who has a SAM at home, just like our technical ed) being sent all these amazing products? Because, as yet, Mr Whitmore, they don't exist in the droves that you imagine they do.

I'll wager if you sent me a list of all the wonderful things that have been released for the Coupé since 1st November this year, you'd be hard pushed to beat ten items.

The Coupé is a fine machine. 8-bit computers are fine machines. *Express* has nothing against any machine, in fact. Console, supercomputer or Oric Atmos - whatever the format, we're happy to report on new developments. And if we thought so little of the SAM Coupé, how come we've arranged to give one away as the main prize in this week's competition, eh Mr Whitmore?

And I'm not printing ANY MORE letters about the SAM. Okay? On the other hand, if anyone out there with a new product for the Coupé would care to send it to me, personally, by recorded delivery, I'll make sure it gets good coverage in *Express*.
H F-W

■ Software Sucker

Is it just me, or do others out there think most 16-bit games suck? I remember the first time I saw Ultimate's *Sabre Wulfe* and the later *Knight Lore* for the Sinclair Spectrum. At £9.99 they were tremendous value and I strongly recommend anyone who thinks 16-bit is the biz to take a look at one of those classics playing. You WILL be amazed, especially when you realise the gross limitations of the piece of kit they run on.

How much would they cost if they were implemented on the latest 16-bit? £25 perhaps? Would it make them any better as

a game? Having said that, I'd rather die than give up my copy of *ImageWorks' Interphase*.

M Steller, Middleton, Manchester

Hmm. I'm sure I expressed similar sentiments myself a little while ago, but there you go. Those 16-bitters too new to the hobby of playing good games might like to check out another *ImageWorks* release - *Cadaver*, which by all accounts should offer as much fun as those early 8-bit offerings from Ultimate. There's no way a game from the Bitmap Brothers is going to 'suck', now is there..

H F-W

■ The Ed Writes...

Last week's letters column was hit by a strange quirk. The draft pages, rather than the final file that Hadyn sent us over the modem link got printed - no offence was intended to Roger Peacey in particular, or ME sufferers in general. Indeed we fully understand the seriousness of the condition. A couple of fivers are already on their way to the ME Association. Meanwhile, here's the reply that should have appeared with Roger's letter.

Point taken, Roger, though I don't think Mr Coghill was seeking to trivialise the affliction that is ME. It's a real disability for some sufferers - and one which computers can play an active part in alleviating, but not causing. Sorry for any offence.
H F-W

■ Talking Shop...

I nearly split my sides laughing at some of the tales of computer illiterate high street shop assistants, but in retrospect your article in *Express* 103 was not so funny.

A computer should be considered as viable a household appliance as the other products that these shops sell; in fact, considering the potential of any machine that can be used for such diverse purposes as business, leisure, publishing and education, it seems almost criminal that these stores advocate such ignorance.

Buying a computer of any sort is an important investment - why can't these shops see that?

On to my next point. I don't think you'll thank me for saying this, but I DO miss old PCW. I used to buy *Express* and *Popular* every week and enjoy them both - but do you at *Express* miss *Pop* at all? Not even a teeny bit? I mean, isn't competition good for staff morale?

Greg Coyle, Kilmarnock, Ayrshire

'Caveat Emptor' pal - which is Latin for 'Buyer Beware'. Shops don't 'advocate ignorance' - they just have the odd ignorant salesman. Go to a specialised computer shop and you are likely to get more useful advice, but then you are also likely to have to pay a higher price. To invoke another old saw 'You pays yer money, and yer takes yer choice'.

The article you refer to tickled the memory cells of my next correspondent...

H F-W

MAIL SHORTS

■ Empty Threat

I was extremely upset - well appalled actually - by the outright misquotation of myself by Steve Carey in the Atari Whistlestop Tour article in *Express* 105.

He was incorrect when when he quoted me as saying that I 'enjoyed playing with the Atari Lynx'. I enjoyed playing with the Atari TT! In fact, my son had to drag me away in order to get lunch. I therefore demand two of your fivers as compensation for this outrageous slur on my character, or I will be forced to take further action.

Clive Parker, Pill, Bristol

Take further action if you like pal...

H F-W

■ MCIIMSTYC?

Could this Commodore-Amiga-spotting in *Neighbours* see the start of a 'My Computer Is In More Soaps Than Your Computer' debate?

Alan Foster, Bassett, Southampton

Quite possibly, Alan. It just depends on how eagle-eyed *Express* readers turn out to be.
H F-W

■ A-Mazeing Plea

I am desperately seeking a copy of *Midi-Maze* by Hybrid Arts for the ST. It is an old game, no longer in production - can you help, and tell me where to find it. You are my only hope!

Michael Kirk, 50 Ripon Road, Stevenage, Herts SG1 4NA

You are quite right, Mike. Even the efficient people at the Special Reserve Mail order club couldn't track a copy down. Your only hope is that one of our readers has got an original copy for sale. If anyone can help Mike, you now have his address. But no piracy, you lot!
H F-W

■ More Fulsome Praise

I have recently purchased a major piece of kit - an Amiga 500 - from a mail order firm that advertises in your mag. I must congratulate Digicom for the excellent service they provided.

R Girvan, Cumbernauld, Glasgow

It just goes to show that *Shopping Express* attracts the very nicest kind of advertiser. And as we take the final run-up to the 'Season Of Goodwill' it's good to see that some people are still prepared to offer praise where it's due, rather than just moan on and on..
H F-W

Read all about it

A glance at any news stand in the UK or any Western country will reveal dozens of magazines on the computer of your choice.

In Russia it's not so simple. The only place I saw a recognisable magazine was on the book stall in a museum. An old second-hand copy of the US magazine *Byte* was offered for more than the average weekly wage.

In order to produce informative computer magazines, the Soviets have formed joint ventures with foreign publishers to reprint magazines in Russian.

The Polish *Compute* magazine from publisher ComPress is a DTP produced general computing magazine on sale monthly in Poland. An extra week's work translates it into Russian. Editor Marek Car said: "We looked at Russian versions of PC DTP programs *Pagemaker* and *Ventura*. In the end we worked up our own Russian version of *Calamus* to use on the Atari ST." He added: "We output from *Calamus* to a laser printer and send the pages to be turned into the magazine." Until *Compute* arrived in early 1990, the Polish edition was the only mainstream computer magazine available in the USSR.

A survey conducted in the Russian *Compute* showed that at least 90 per cent of the readers were using Spectrum clones with the rest made up of Atari XEs, DVK BOKIs (the Soviet educational computer that occupies a similar niche to the Beeb in the UK) and a few MSXs.

Recent joint ventures with foreign publishers now offer Soviets a choice of four magazines. As well as *Compute*, there is *Computer World* – regarded as too Macintosh oriented in a country where there are only a dozen or so Macs. *Inter Computer* – a good technical read and a Soviet/Finnish magazine called *HOBNTEx*.

!omnibytes



THE EASTERN

As the BA 757 bumped on to the cracked concrete of Leningrad's military airport I saw the first trappings of austerity. I'd been invited to view the latest in Russian computing, but the single storey concrete terminal buildings and the advanced state of decay in everything from the runways to the airside bus suggested a scene from an immediate post war film.

The road into town was long and full of potholes. So I arrived at the hotel in central Leningrad shaken but not stirred.

In the foyer a PC was showing an advertisement for the hotel. A peek at the back of the computer showed the main system unit to be of Soviet manufacture and the monitor to be Taiwanese. I was led off to the annexe reserved for foreign nationals and found another PC at the reception. This brand of Thai-Soviet technology was on show in all the hotels I saw during my Soviet visit and looks to be the de-facto standard for information technology in the Soviet tourist industry.

The initial invitation to visit the Soviet Union had come from InterCompex, the Leningrad based company producing the Spectrum based *Hobbit*. I had high hopes for the promised trips to the plant where they were preparing to take the wraps off a couple of new *Hobbits* and a Spectrum-beating console.

First impressions of Leningrad were of an old fashioned city with little traffic. Buses, Trolleybuses, trams and a deep Metro carry the population around and were heavily subsidised. Five kopeks (about half a penny) was enough to whisk you the length of the city.

The socialist system of the USSR means that most things are state owned and administered and there is little or no need for advertising and promotion. This leaves the city looking somewhat naked and unlined in.

If you need something, you are allocated it if and when it's available. The allocation can come from

Central government in Moscow, the State government or region or from the local administrative government.

Computers are in short supply and the people whose jobs involved the use of a computer considered themselves lucky to have one. To buy an ordinary PC XT could cost 60,000 Roubles if you could find one for sale – and 2,000 Roubles a month is considered to be a very good salary indeed. Even rarer is the idea of 'owning' a computer at home. There are very few 'home' computers in the USSR. Those that do exist are the property of the very rich (by Russian standards), those who have assembled a computer from the few available components or those who have been given them by friends in the West.

The current Soviet philosophy is to learn from existing technology by example and refine ideas until the product is much better specified than the original. I was left in no doubt that technology was taken seriously in the USSR and every company and factory had access to whatever technology they needed via a state information service. Dmitri Mikhailov from InterCompex (the company which invited me to see its plant) said: "We don't want obsolete western technology dumped on us. We must catch up, not remain behind".

A week of meetings and travels took me to schools, military factories, offices, shops and hotels. The Russian people were warm, friendly and accommodating, readily sharing what they had and talking with animation about everything from Raisa Gorbachev to Lenin. Although I was glad to see the friendly British Airways cabin crew at the top of the ladder on the way home (there are no elevated walkways in Leningrad) I felt that I hadn't seen the last of the Soviets. The days of the cold war may be over, but with their promised technological revolution, we may see a gentler invasion via the high street computer stores.

Tackling technology Soviet style . .

The sterile conditions, protective clothing and test rig procedures could be at any high technology manufacturing plant in the West, but for a few obvious differences. The photographs were taken in the factory on the outskirts of Leningrad that produces the *Hobbit* computer.

These first pictures wouldn't normally be available to the West as the factory is a Soviet military installation and is utilising its excess capacity to help push the USSR forward in the technological stakes. The red tape that had to be cut to take these pictures out was formidable and only after a KGB man had checked through the viewfinder was the shutter allowed to fall.

Each factory and installation has at least a couple of KGB residents and to someone fed on the pulp fiction of *Le Carré* and chums, it came as a surprise to find out that those three terrifying letters do indeed mean more than interrogation and espionage.

The factory had a KGB resident from the First Directorate who was responsible for internal factory security and all matters of integrity in the day-to-day running of the plant.

Also available in hand was a representative of the



• Bespoke hand made circuit

Second Directorate. His duties seemed to be less clearly defined, but in simple terms he was in charge of external research. For example a scientist or engineer wanting to work on a complex logic array would be forbidden by the Second Directorate to take time and resources developing something that is readily available off-the-shelf elsewhere.



• Checking PCBs in sterile conditions.

The Second Directorate person would take note of what was required and the full might of the KGB would swing into action to get it. This could mean purchasing catalogues or manuals or even chip plans. These would be given to the person who had requested them and copies would go on file and into the central KGB cross referencing system.

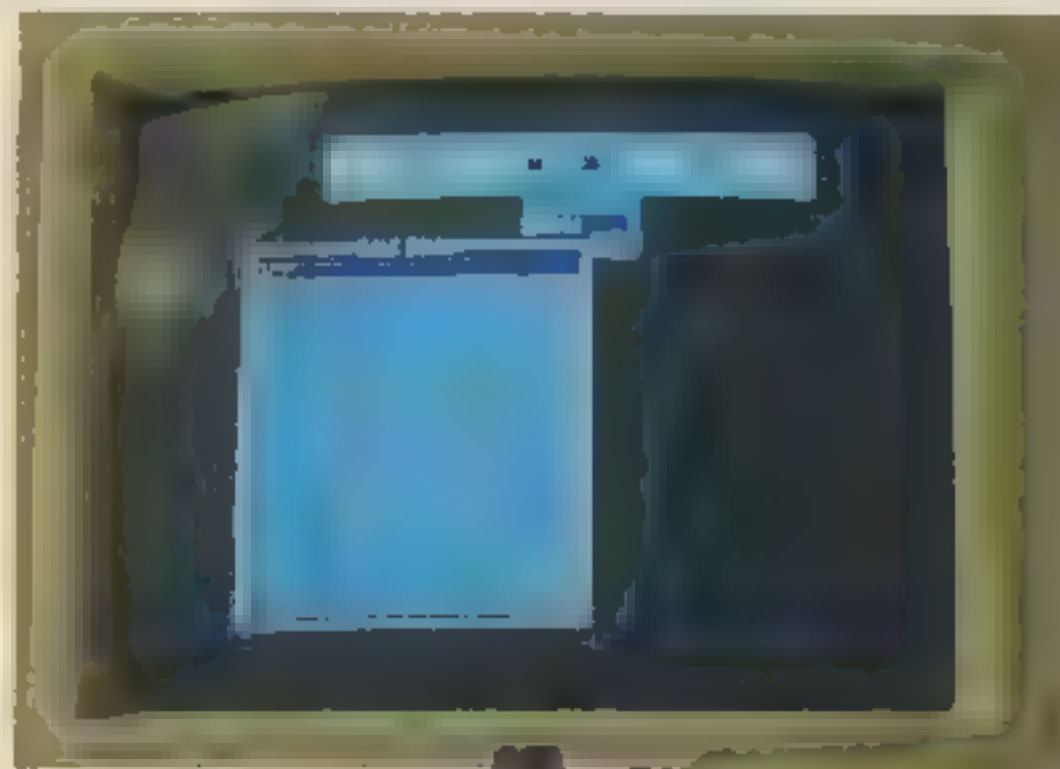
EARN PROMISE

The Soviet Union is closer than you think, but with the door locked for the last forty years it hasn't taken kindly to Western tourists. Keith Pomfret learned the secret Glasnost knock and checked out the USSR computer scene.

School's Out

In the USSR, schools have numbers not names. I visited school 564 to see how computing is taught in Russia.

School 564 had a classroom at the top of the building dedicated to Physics and computing. A waist-high work surface around the perimeter of the room carried a dozen Hobbits and the teacher proudly showed me the AT clone that he drives the Hobbit network from. As well as the formal aspects of computing the students are encouraged to experiment and even play games.



• School 564's proud possession - an AT clone.



• In the classroom - the Hobbit network.

A suspect copy of *Chuckie Egg* was dusted off in order to demonstrate the classroom's network. The familiar Spectrum game popped up on the networked machines.

A demonstration showed that each program was independent once loaded into the nodes of the network and could be monitored from the teacher's PC.

Teacher Yuri Karreskj said: "We are lucky to have these computers. Not every school in Leningrad has a network like this. We got local government sponsorship in order to install the net. Some schools have no computer and others manage with a few outdated Japanese MSX."

School 564 has around 600 students attending and



• The kind of 'breadboard' computer common in Russia. This one is the development prototype for the new Hobbit.

Grow your own

Computers aren't widely available in the USSR yet, but the thirst for data processing power means many Soviet citizens have become hardware and software engineers by necessity, building computers from scratch using what parts are available.

However, the less painful way is to take existing technology and clone it. The Sinclair Spectrum is well documented in the USSR and in Leningrad alone it's guessed that there are at least 20 home grown Spectrum clones built from need.



• Schools have numbers, not names.

Karreskj was emphatic about their enthusiasm: "The school curriculum allows a couple of hours computer study a week," he said, "That's not enough and the students come back in their own time in the evening to use the computers. They'd stay all night if we let them."



• Waiting for the case.

The raw data and manuals could come from elsewhere in the USSR, if it had been previously requested, or from abroad. With the lack of copyright and patent laws in the USSR there are no cumbersome licensing agreements to restrict or hinder the use of technology, or for that matter, anything.

The West has become alarmed at the amount of



• Soak testing Hobbits.

ideas, technology, hardware and software going east into a free-copying and cloning void. As a result of this, plans are at hand in the USSR to formalise copyright of imported goods from next year and regulate the use of foreign ideas and equipment.

• It's easy to wave an indignant finger at the borrowing and copying of ideas by the USSR. Only last week,



• The finished products.

though, Amstrad boss Alan Sugar reacted angrily at new EEC copyright laws that will make it illegal to examine software, take the best parts and ideas and write a compatible suite of programs.

Sugar said: "The Community is on the verge of putting its computer users at the mercy of IBM, DEC and a couple of other multi-nationals."

UK HOME COMPUTERS

PC/XT FOR UNDER £300

8088 Processor @ 8 MHz, Serial & Parallel Port, 8087 Socket.
1/2 Mb On-Board RAM (Expandable)
1X360k 5.25" FDD (Space for second)
Mono/Colour Graphics Card
2 Conventional Expansion Slots
Space for Internal Hard Disk Drive
MS-DOS 3.3 & GW-BASIC 3.2
102 Key Keyboard made by EPSON
12" Mono Monitor (New/Ex-Display)

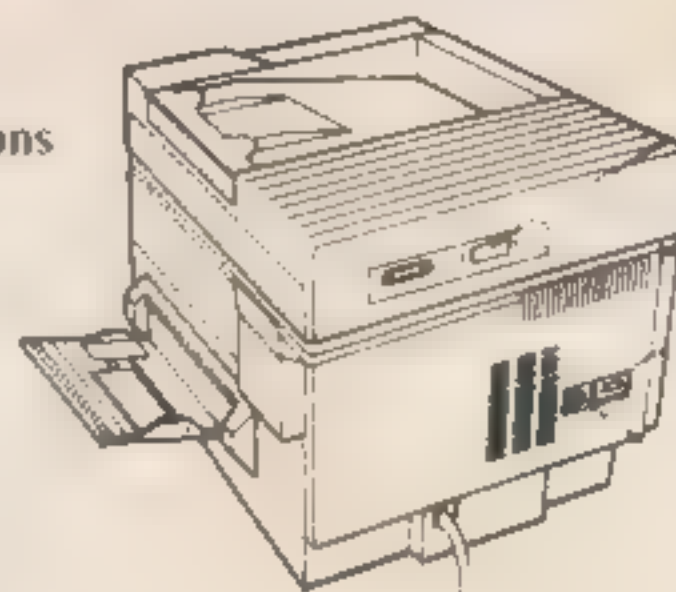
Ideal for Christmas



£299.95p inc. VAT & Carriage

CITIZEN LASER PRINTER

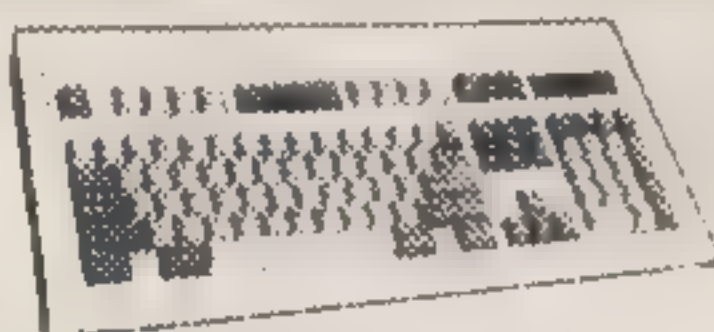
10 Pages per Minute
1/2 Mb On-Board Memory
Epson FX/ Proprinter & Diablo Emulations
Parallel & Serial Interface
300X300 dots per inch
Landscape & Portrait Printing
Toner Cartridges from £18.00p
12 Month On-Site Warranty
Model:- Overture 110 +



£804.95p inc. VAT & Carriage

PC XT/AT KEYBOARDS

102-key keyboard made by EPSON, Full UK Spec, with 5 pin connector. Adjustable feet allow an elevated typing position. Self-sensing between XT or AT operation. Normally retailing at over £100.00p



£39.95p

Postage & Packing £4.05p

"WINDOWS"

Microsoft's WINDOWS 286, Ver 2.1. Full manuals, 5.25" disks. Brand New & unregistered. Currently selling for approximately £55.00p plus VAT.

£29.95p plus £3.05p Postage

WINDOWS 386 Ver. 2.1

£49.95p plus £3.05p Postage

"FIRST FRAMEWORK"

Made by ASHTON-TATE. A Complete integrated package for the Amstrad PC 1512 or PC Compatibles. The package consists of a word-processor, database, spreadsheet, & graphics programs. System requirements are 2 5.25" disk drives & a minimum of 360k RAM. MS-DOS 2.0 or higher. This package is all that you would expect from a company like ASHTON-TATE.

£24.95p

inc. VAT & Postage

SAMSUNG PC/XT's

Model SPC 3000. 512k RAM (Expandable), Full-Size Keyboard, MS-DOS 3.2 & GW-BASIC, 4.77/8 MHz Clock Speed, Battery Back-Up, 5.25" Disk Drives, Hercules Display Card, RS232 & Parallel Ports, 8087 Co-Processor Socket, 90 Watt switched Power Supply, 4 Expansion Slots, Small Foot-Print. FREE Ex-Display Mono Monitor.

Single Disk Drive (512k) £419.95p
Double Disk Drive (512k) £449.95p
Single Disk Drive, 20 Mb Hard Disk Drive (640k RAM) £589.95p

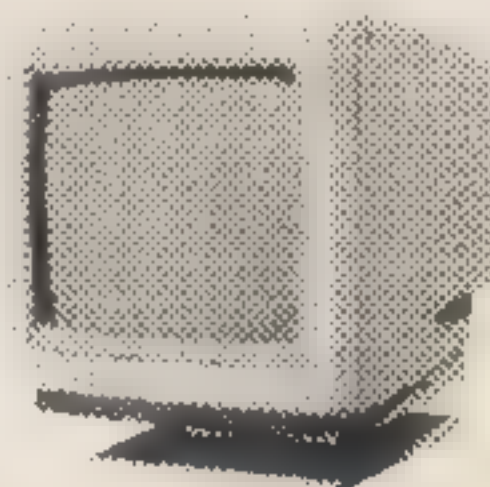


inc. VAT & Carriage

EX-DISPLAY MONITORS

Made by SAMSUNG. Condition as new. Tested prior to despatch. These monitors have generally had less than 10 hours use.

14" EGA £149.95p
12" TTL Mono £49.95p
12" VGA Black/White £69.95p

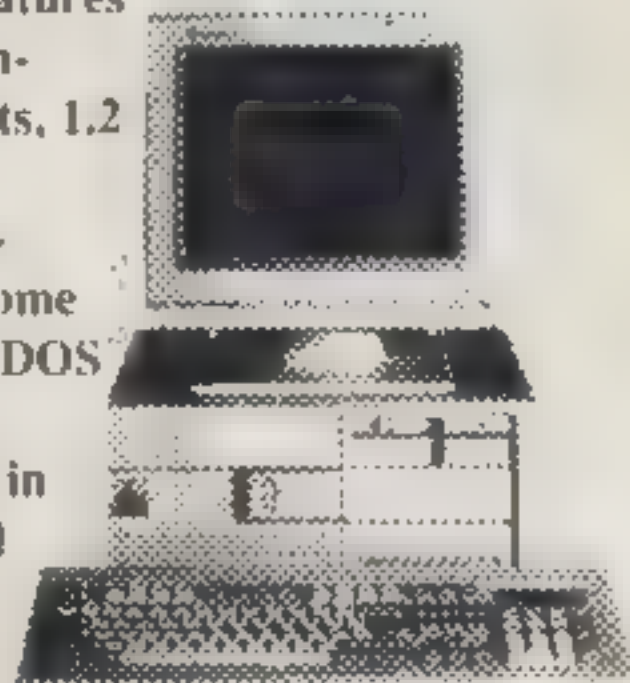


Tilt & Swivel Base and Data cable included

The above prices include VAT, but please add £10.00p per monitor for overnight carriage.

PC/AT 286-OFFER 1

Made by SAMSUNG. Model MFC 6000/1. Usual selling price around £800.00p plus VAT. Features include 80286 processor @ 10MHz, 1Mb On-Board RAM (Expandable), 6 Expansion Slots, 1.2 Mb 5.25" High Density Floppy Disk Drive, (Room for 2 additional drives), 102 key keyboard, battery back-up, Hercules/Monochrome graphics Card, Serial & Parallel Ports, MS-DOS 3.2 & GW-BASIC. Ideal computer for the enthusiast who wants to add to their system in their own time. This item is very limited and cannot be repeated.

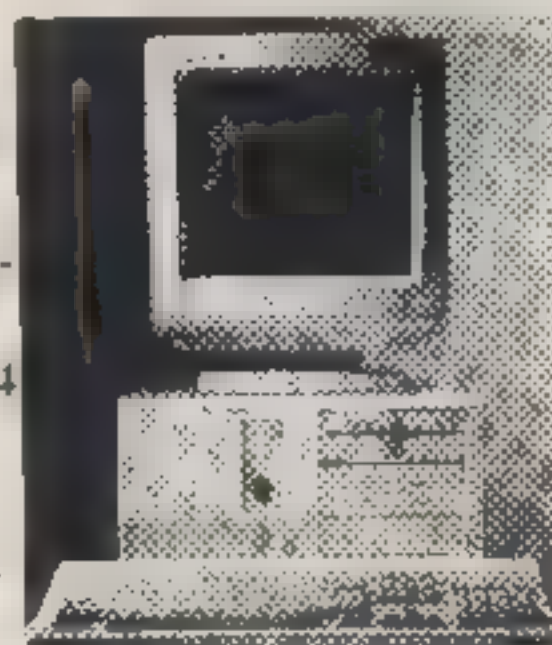


£499.95p

This price includes VAT, but please add carriage £10.00p. (Note:- This offer doesn't include a monitor.)

PC/AT 286-OFFER 2

Made by SAMSUNG. Model SPC 6512, currently selling everywhere at £1150.00p plus VAT. Features include 80286 processor @ 12MHz, 1Mb On-Board RAM (Expandable), Twin High Density Floppy Disk Drives, (1X5.25" & 1X3.5"), 102 key UK Keyboard, Maths co-processor socket, 3X16 bit expansion slots, 2X8 bit expansion slots, Hard disk controller, Battery Back-Up, Optima/1024 VGA Graphics Card, MS-DOS 3.3, GW-BASIC, & Ex-Display 12" Samsung VGA Black/White Monitor. This machine is very powerful & well-specified. Again, limited stock so order early.



£699.95p

inc. VAT & Carriage



VISA/ACCESS orders welcome. Prices subject to change without notice. All transactions are subject to our standard conditions of Sale, available upon request. Personal callers welcome by appointment. All prices include VAT. All goods Brand New unless expressly stated otherwise

VISA

UK HOME COMPUTERS

82 CHURCHWARD AVENUE,
SWINDON, WILTS. SN2 1NH.
0793 695034

3

AND...EVEN MORE

CONTENTS

AMIGA	18
Fancy a £500 CD-ROM drive?	
ARCHIMEDES	19
Make your Arc talk with a 32-bit software speech synth	
CPC	20
Is Switchblade the best console game so far?	
C64	22
Hooking up your machine to a PC compatible	
PC	23
Now you can buy a 4 Mbyte floppy drive!	
Spectrum	24
Christmas is coming	
ST	25
Steve Carey in no mention of ST Format shock horror	
Macintosh	32
Customise your Mac with a little help from ResEdit	
Centrefold	38
More digital delirium from the page with a power complex	
Whole Wired World	47
Steve Gold at large	
Getting to know you	51
Reply to our questionnaire and win a free subscription!	
Express On-line	54
The weekly bulletin board and user group guide	
Circuit City	57
Starting to step out in the upgrade path	
The PD Column	59
The best in free software	
Tech Tips	62
More sound advice from The Big K	

PLUS PAGE AFTER PAGE OF MONEY-SAVING ADS!

FREE! Reader Ads Order Form

PLEASE TICK THE CATEGORY YOU WANT YOUR AD TO GO IN:

- HELP OFFERED**
SERVICES
ANNOUNCEMENTS

- GOODS WANTED**
VIRUS WARNING
MINI-TIPS

- BUGS DISCOVERED**
FOR SALE

- EVENTS**
- PERSONAL**

NAME _____

TEL:

ADDRESS

Send your reader ads to:

SHOPPING EXPRESS READER ADS,
30 MONMOUTH STREET, BATH BA1 2BW

Terms and conditions

- Sorry, NO trade ads. All reader ads must be from private individuals
- We cannot vouch for the quality of goods and/or services offered in this section. All ads are accepted in good faith.
- We reserve the right to amend or refuse reader ads at our discretion
- No pirated software may be sold through these columns. Any reader being offered non-originals should contact us
- We cannot guarantee that reader ads will appear ■ The particular issues of Express
- The following declaration should be signed:

My advertisement conforms to the terms above and is legal, decent, honest and truthful

Signed

WRITE YOUR FREE AD HERE USING ONE BOX PER WORD IN BLOCK CAPITALS.



DATAPEX COMPUTERS LTD.

129 Bath Road, 19 High Street
Slough, Swindon,
Berkshire, Wiltshire
SL1 3UW
Tel: 0753 35557 Tel: 0793 488448

SHOWROOM
open:
Mon - Fri
9.30 - 5.30
Saturday
9.30 - 4.30
MAILORDER
Consumables
£1.50
Hardware
£8.00
Prices
excluding VAT

AMIGA A500 HARDWARE

Amiga A500 Batman Pack
+ free box of disks£317
Amiga A500 Flight of Fantasy +
box of disks£317
Amiga A500 Screen Gems
Packs + free disks£317

SPECIAL OFFER

Amiga A500 1Mb Pack - Choose
any Amiga A500 from above and
we will give you 512K RAM +
clock, mouse mat at only£355
Amiga Class of 90's (1Mb)£459
Amiga First Step (1Mb)£459

ATARI COMPUTERS

Atari 520STFM discovery pack
includes 4 games£240
Atari 520 STE Turbo Pack includes
basic STOS and 7 games£310
Atari 1040 STE extra pack includes
ST Words, ST Calc, ST Basic, ST
Graphics, Hyper-Paint, STOS, 1st
Basic, Print Game£399

AMIGA/ATARI DRIVES

1 Meg 3.5" internal£49
1 Meg 3.5" external£60
1 Meg 5.25" external£90

ACCESSORIES

512K Ram + clock£39
Joystick£10
10 Blank disks in library box£6
Mouse Mat£3
Naksha Mouse£32

MONITORS

Philips CM8833 - Colour Monitor
+ leads only£189
Philips CM8833 MK 2 II colour
monitor + leads only£199
SM 1224 (Atari)£205
SM 124 (Atari)£85

PRINTERS

Star LC10 Mono£129
Star LC200 Colour (9 pin)£180
Star LC24 200 (24 pin)£219
Star LC24 200 Colour£259
Panasonic KXP1124+ lead£199
Panasonic KXP1624£329
Citizen 120D +£120
Citizen 124D£189
Citizen Swift 24 + Colour
Upgrade£265
Citizen Swift 9 + Colour
Upgrade£185
Epson LX400£126
Epson LQ400 (24 pin)£199
Epson LQ 550£360
LQ860 Colour£509

RIBBONS

PLEASE CALL FOR PRICES

COMPUTER LAB

HARDWARE

Amiga Flight of Fantasy Pack£349.00
Amiga Screen Gems Pack£349.00
Amiga Class of the 90's Pack£499.00
Amiga 2000 please ring for best prices
Amiga 3000 please ring for best prices

Discovery Pack 520STFM£269.00
Power Pack 520STE£359.00
1040 packs from£434.00
Lynx£159.00

Please ring for best discounts on
hardware and software - the very best
games machines in the world today!

SEGA MEGADRIVE

Megadrive£149.00
Software at discounted prices,
please ring for details.

PUBLIC DOMAIN DISKS

We have an extensive range of public domain and
shareware programs. Please ring for details of our
Amiga and ST libraries.

SEVEN DISK SPECIALS ONLY £10.95

AMIGA DEMO PACK 4 - 4 of the best latest
demos. Pack changes the time but never has
same demos twice.

AMIGA BUSINESS PACK - Spreadsheet,
Wordprocessor, Database, Journal, N.A.G., Inventory.

AMIGA UTILITY PACK 2 - Virus killers, Copiers,
Disk Managers, Rippers, Bootcopiers. Plus loads
more.

AMIGA PROGRAMMERS PACK - C compilers,
Assemblers, Source Codes, Pascal, LISP, C manual etc.

ST GAMES - Azarian, Othello, Queboid, Breaknoid,
Wheel, Football, Monopoly, Rocrm, Invaders, Tennis,
Bermuda Race 2.

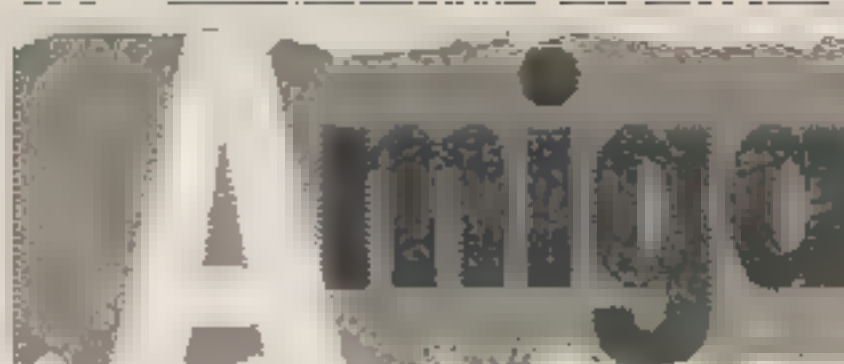
ST BUSINESS - Spreadsheet, Database, Inventory,
Fincalc, Stocks, Shares, Double Sentry, ST Writer
Elite 3.

BLANK DISKS

3.5" QUALITY DISKS £12.00 FOR 30
FULLY GUARANTEED DSDD 100% CERTIFIED

PROMPT DELIVERY
85a MANSFIELD RD,
DAYBROOK, NOTTINGHAM,
NG5 6BH.

24 HOUR ORDERLINE
TELEPHONE: NOTTM. (0602)
673674/673672



CD AFFAIRS

So you thought the ultimate in CD-ROM
technology was the CDTV, eh? Think
again. Before Commodore has even
starting thinking about shipping CDTV's
to us lowly end users, Xetec in the
States has already started selling its
CD-ROM system for the Amiga range
(including both the A1000 and A500!).

Its CDx-650 is a SCSI CD-ROM
drive that offers unlimited access to
vast amounts of information on
removable, non-volatile CD-ROM discs.
The drive reads industry standard ISO
9660/High Sierra discs with a
maximum capacity of 650 Mb. This is
exactly the same format as used by
Commodore's own CDTV, which means
that owners of the 'real' Amigas will
also be able to take advantage of
software for the CDTV long before
Commodore releases an 'official'
CDROM drive.

Just like Commodore's CDTV, the
CDx-650 can also act as a conventional
CD player, therefore allowing you to
play audio compact disks when used in
conjunction with the supplied software.
Just think, the ultimate pose - an Amiga-
controlled audio CD player! The drive is
available either as an internal model for
the A1500 upwards, or as an external
drive for connection to the A500 and
A1000. Each drive features dual SCSI
connectors for daisy chaining drives
together.

OK, CD-ROM software for the
Amiga isn't exactly available in great
numbers, but to get you going, Xetec
includes a free CD ROM called 'Fish and
More'. This disk contains the entire
Fred Fish library of PD disks (up to Fish
360, to be precise) plus a few disks
from other collections. As Xetec itself
claims, if you were to buy the entire
Fish collection on floppy, it could set
you back well over £1000! What's
more, the drives are also pretty
damned cheap. How does just under
£500 grab you? When you consider
that you also get what represents over
£1000 worth of PD software, the CDx
system is great value for money. PD
suppliers may be well advised to take
note - after all, CD ROM is a much safer
storage medium than floppy or hard
disk!

PC PLUS

Users of Bitcon's acclaimed KCS Power
PC Emulator board will be pleased to
hear that the company has released not
one, but two software upgrades for its
device.

First up is version 1.5 which offers
many enhancements over the original
release. These include support for non-
MS-DOS disk formats (therefore
supporting most copy-protected PC
software); a sophisticated Disk Cache
system (which speeds up disk
accessing considerably); support for
the MicroSoft Mouse; improved serial
port emulation, full support for the new
Enhanced Chip Set (ECS) upgrade
(including an improved Hercules
display); more user friendly installation
program, extended Help facility during
PC emulation and finally, an extra eight
colours in CGA mode (bringing the total
up to 16).

By the time you read this, Bitcon
should also have version 2 of the
emulation software available which
offers the following extra
enhancements over version 1.5 -
support for the A590 hard drive (store
PC programs and data on your A590!),
built-in mouse driver and support of the
parity bit on the serial port.

The upgrades don't stop there,
however. Early next year, Bitcon plans
to release another upgrade which will
enhance the Power PC Card even
further. Extra features are support of
most EGA and CGA video modes, an
expanded memory manager which will
allow you to use all your Amiga's
memory during PC emulation and
support for a number of major hard
drive brands.

For more, give Bitcon a call on
091 490 1919.

AMIGA ON TV (AGAIN)

The mystery is solved. After a recent
phone call from Gary Fenton, head of
Deeper Domain PD, the mystery
surrounding Commodore's involvement
with the popular Australian soap,
Neighbours, has finally been solved.
Although Commodore is listed in the
credits of *Neighbours*, no one seemed
to know precisely what kind of
assistance Commodore were providing.
It can now be revealed.

According to Gary, an Amiga 500
can be seen being used by Paul, Gail
and Jane in their office. The machine is
used for a number of different
applications including spreadsheeting
and word processing. Rumour has it
that Paul also has a copy of 'Teenage
Queen' locked away in his desk drawer.
Seasoned *Neighbours* fans may
remember that Paul used to own an
Apple portable (not a Mac!), but it
seems that time has finally run out for
the aged machine.

Once again, *New Computer
Express* proves that it can bring you
the best stories from the Amiga
industry - You don't get stories like this
in Byte!

MUSICAL GAJITS

So you wanna get into Amiga MIDI but
can't afford the high price of such
professional offerings as *Music-X* and
Pro-24? If so, then Gajits' new
Sequencer One could be for you.

Based around the original ST
program, *Sequencer One* offers 32
tracks of real time MIDI recording; real
and step time, with complete graphic-
based displays and editing. According
to Gajits, the Amiga version also offers
several extra features of the ST version
that take advantage of the Amiga's
increased power. It seems almost
certain that *Sequencer One* will take full
advantage of the Amiga's sampled
sound capabilities.

For more information on this and
other Gajits music products, give 'em a
bell on 061 434 2768.

STATESIDE SCENE

Fuller Computer Systems has released
an enhanced version of its highly
respected software backup tool,
Project D. According to Fuller, the new

release is now fully Workbench 2.0-compatible.

All you desktop video fanatics will no doubt be pleased to hear that Elan Enterprises has produced version 2 of its desktop presentation system, to be known as *Elan Performer*. Version 2 is going to offer support for even more image and animation formats (more than any other hitherto existing Amiga program), full A Rexx support including recorder and MIDI applications, enhanced animation editing and, of course, full NTSC and PAL compatibility.

Firing up for the impending release of Amiga DOS version 2, Commodore US has been going to great lengths to assure end users that the new release isn't going to leave them stuck with a load of incompatible software which they are unable to use. And so, in its latest move, Commodore has requested all software manufacturers to explicitly state whether their products are Amiga DOS 2.0 compatible or not.

To encourage them to comply with this initiative, Commodore has made it easier for them by issuing stickers

which can be affixed to the front of packaging to allow users to see at an instant whether the software they are buying will work with their 2.0-based Amiga.

Commodore also believes that this should encourage software houses to ensure that their products are Amiga DOS 2.0 compatible - after all, many users may choose an alternative product if they aren't sure whether a particular product is Amiga DOS 2.0. - no one wants to waste money on something that may turn out to be useless as well as expensive. Nice one, Commodore!

AND LOOKING FORWARD TO NEXT WEEK

If you have enjoyed my ramblings, be sure and check out next week's *New Computer Express*, in which I shall be reviewing the latest batch of books from the publishers, Adamsoft. Also of course, even more news and gossip and hot tips from the within the Amiga industry.

My name's Jason Holborn, thank you and good night.

Jason Holborn

Archimedes

TALKING TURKEY

Sometimes, you can let the quality of the product speak for itself. Snarf gnurbbud flepsh wub ll meahh. See what I mean? *DT Talk* is an achievement of sorts. It's a software-only speech synthesiser for the Arc, a sort of Superior Software Speech! That only barely earns its 32-bit hood by dint of working on the desktop. You give it a line of text or a text file, and it gives you hiccups - its spoken version of the text. It works by splitting up the text into allophones (all the different sounds used in natural speech), then saying the allophones. No system is perfect, but it makes a pretty good stab at splitting ordinary text into allophones: a couple of test sentences were spoken nearly as clearly with the simple 'Say command as with my hand-tweaked SWI calls direct to the module. But the actual sounds it makes are dubious. Speech demos usually cheat by letting you read the text on screen at the same time. The best test is to try to understand some text 'blind', and it's difficult. Curio interest only, and I've no idea how much it is, but the address is DT Software, 13 Northumberland Road, Leamington Spa, Warwickshire.

INTERFACE LIFTS

The whole point of WIMP software is to make it easy to use, and consistency is a big part of this. If you've learned how to use one RISC-OS application, then you're half way to knowing everything else.

That's the theory, but I'm not entirely sure that an in-depth knowledge of Artisan would help much with Data Vision. Like other graphical user interfaces (the Mac, Windows or Presentation Manager on PCs, Motif or Open Look on Unix machines etc), RISC-OS has a style guide. Unlike the others, it's not very easy to get hold of.

Some of the guidelines in it are basic, straightforward and sensible - Acorn seeks to standardise the colour schemes used within windows, to encourage the restrained, almost anaemic look of programs like *Edit* and *Draw*. It sets out the standard shapes and sizes for sprites, icons and menus, as well as giving guidelines on what the Adjust button should do. Much of this information is duplicated in the Programmer's Reference Manual, but there is extra detail in the style guide itself.

Buried in the detail of the book are a few more general points about the style of working - for example, it advises you to set up dialogue boxes as part of the menu system where possible (as with the colour selector in *Paint* and *Draw*), rather than separated from it (like the frame border dialogue in Acorn DTP). But overall, it seems as if the detail gets more attention than the big picture. A little of the advice is downright daft. There is a force of natural selection at work with software, and one of the ideas that has stood the test on other machines is Cut, Copy and Paste. To move some text, you select it, cut it from the original position, indicate the new position and paste it into place. *Edit* uses a different scheme, as recommended in the style guide: Delete, Move and Copy, which harks back to View on the Beeb.

What's the difference? I've taught beginners how to use both systems, and I know which one causes more confusion. With Cut, Copy and Paste, there can be a selected area or a cursor, but never both. Delete, Move and Copy leaves you with two active areas to keep an eye on - the selected area as well as the cursor. Check out how it works with *Edit* and *Acorn DTP*.

While I'm seated comfortably on this hobbyhorse, I might as well

DOWN GO THE PRICES AGAIN!

Inc. Labels

1 1/2

BULK BUYERS

50 3 1/2 DS/DD	£19
100 3 1/2 DS/DD	£34
150 3 1/2 DS/DD	£49
200 3 1/2 DS/DD	£63
400 3 1/2 DS/DD	£122
500	£Call
1000	£Call

Price includes VAT & P&P

DISK + BOXES

50 Disks + 80 Box	£22
100 Disks + 80 Box	£37
150 Disks + 80 Box	£52
200 Disks + 80 Box	£67
400 Disks + 2 80 boxes	£130
500 Disks	£Call

Price includes VAT & P&P

All prices include VAT

3 1/2 DS/HD 70p

POSSO 150 CAP BOXES £15

SONY BULK 42p

SONY BRANDED 74p

*** ALL DISKS CERTIFIED 100% ERROR FREE ***

ADD £3.50 P&P. ADD £7.50 2 DAY. ADD £9 NEXT DAY

AMIGAS	1/2 MEG Upgrade	ATARIS
SCREEN GEMS £353	1/2 MEG + Clock £37	DISCOVERY £259
BATPACK £353	Cumana Drive £66	TURBO PACK £350
FLIGHT OF	Amiga Drive £57	1040 STE £420
FANTASY £353	1 1/2 MEG Upgrade £99	PORTFOLIO £210
CLASS OF 90'S £510	Mouse Mat £2.50	CUMANA DRIVE £68
FIRST STEPS £510	Zipstick £11	DUST COVER £5
DUST COVER £5	Cheetah 125+ £8	

STAR LC-200 PRINTER £215

CALL OR SEND CHEQUES TO B.C.S LTD
349 DITCHLING ROAD, BRIGHTON BN1 6JJ
Tel: 0273 506269 - 0831 279084 7 days 24 hours.

The Adventurers Club Ltd.

64c Menelik Road, London NW2 3RH. Telephone: 071 794 1261



ADVENTURER, JOIN OUR CLUB!

ADVENTURES * STRATEGY GAMES * SIMULATIONS * ROLE-PLAYING GAMES

As a Member, you will receive our **REFERENCE BOOK OF ADVENTURE**. Our regular Amendment and Update Packs will enable you to build up the most comprehensive adventure-related reference book ever published, as a cross-referenced and constantly updated volume.

The **REFERENCE BOOK OF ADVENTURE** is divided into 26 sections:

- * NEWS
- * SOFTOGRAPHY
- * BASIC ADVENTURING
- * MULTI-USER ADVENTURES
- * SIMULATIONS
- * SERIALISED SOLUTIONS
- * STARTER-GUIDES
- * UTILITIES
- * PLUS MANY OTHER SECTIONS!
- * REVIEWS
- * COLUMNISTS
- * ADVENTURES
- * STRATEGY GAMES
- * MINI-SOLUTIONS
- * PLAYING-GUIDES
- * HINTS AND TIPS
- * BUGS

BENEFITS INCLUDE:

- Access to our **HELP-LINES** (mail and telephone - 7 days a week)
- Wide **SOFTWARE CATALOGUE** (up to 25% discount - all formats covered)
- Free swap/sell facilities, cash prizes, competitions, special offers and MUCH MORE!

For more information, please write or phone us for a **FREE** leaflet/application-form, or complete the coupon to take advantage of our **SPECIAL INTRODUCTORY** offer worth £2.00 off your subscription.

Please enrol me as a Member of the Adventurers Club for 6/12* months.

NAME:

ADDRESS:

POSTAL CODE:

BINDER and INDEX

: £7.95 (one-off initial purchase)

STARTER PACK

: FREE (normally £2.00)

6-MONTH U.K. SUBSCRIPTION

: £14.00

12-MONTH U.K. SUBSCRIPTION

: £24.00

I enclose a cheque for £21.95/£31.95* payable to the Adventurers Club.

Please debit my ACCESS/VISA * card with £21.95/£31.95*.

(Card number:

Expiry: /

(Cardholder signature:

Overseas rates available on request.

* Please delete as appropriate.

HIGH QUALITY DISKETTES

PIN NUMBERED QUALITY DISKETTES 100% CERTIFIED AND GUARANTEED 100% ERROR FREE. MANUFACTURED AND QUALITY ASSURED BY AN INTERNATIONAL BRAND NAME

3 1/2 DS COLOURED

40p

EACH

RED, WHITE, BLACK, GREY, YELLOW, ORANGE, GREEN.

ORDER OVER 100 RING FOR PRICE

3 1/2 DS DD 37p

EACH

3 1/2 DS HD 80p

5 1/4 DS DD 22p

5 1/4 DS COLOURED DD 28p

5 1/4 DS HD 42p

STORAGE BOXES

3 1/2 PLASTIC LIBRARY 5 1/4 CASES **89p** EA
 3 1/2 40 cap...£4.20 3 1/2 80 cap...£4.60
 5 1/4 50 cap...£4.40 5 1/4 100 cap £4.90

EURODATA
 12A QUAKERS YARD
 ADAM AND EVE ST
 MARKET
 HARBOROUGH
 LEIC LE16 7LT
 TEL: 0858 433992
 FAX: 0858 432549

LIFETIME GUARANTEE
ALL PRICES INCLUDE DISKETTE LABELS ENVELOPES AND VAT
 ORDER NOW WITH POSTAL ORDER OR CHEQUE MADE PAYABLE TO EURODATA, OR TELEPHONE YOUR ORDER USING MASTERCARD & VISA. SUBJECT TO AVAILABILITY
 ADD £3.20 P&P

RING FOR MEMOREX BRANDED PRICES



LOWEST PRICES FOR HIGHEST QUALITY

What you see is what you pay - no hidden charges!

All prices *include* postage, VAT and labels

Top Quality 3.5" DSDD each

1-49 **46p** 50-99 **44p**

100-149 **43p** 150+ **42p**

40 disks & 40 capacity box **£22.00**

80 disks & 80 capacity box **£41.00**

Disk Boxes

3.5" (80 capacity) 1 **£7.40** 2 **£12.78**

Other sizes available - telephone for prices

All disks are purchased direct from a major manufacturer and are 100% guaranteed.



MARKETACE LTD



20 Stapledon Road, Orton Southgate,
 Peterborough PE2 0TD

Tel: (0733) 371799 (24 hours)

Fax: (0733) 370722

Callers welcome Mon-Fri 9-5. Sat. 10-1.

complain about the way the printer drivers set up the serial port. One dialogue box could do the job of several menus, and considerably more quickly. And about the lack of standardisation of function keys (First Word Plus and Acorn Desktop Publisher use different function keys, despite both being written for Acorn by GST - unbelievable). And what happens if you change from a 'big screen' mode to a smaller one.

Add to this list... If you have a comment on the style of Risc OS, or on software you think needs an interface lift, write to me here at Express. I'll pass on the better ideas.

THE WIMP GAME

Stupid. Boring. Pointless. A complete waste of time. This is my kind of game. It works on the desktop, and needs only a few deft flicks of the mouse to play. You're in a house, and have to progress through rooms by manipulating objects in the house pouring a cup of coffee in the kitchen, working the microwave oven and so on. As each stage unfolds, you're rewarded with a more powerful micro, starting off with an Acorn Atom and progressing through Beeb and Arc to the ultimate prize, a Unix workstation. It's an original. Fourth Dimension has a great reputation, and the Wimp game can only enhance it.

SCSI AND ALL THAT

One hardware manufacturer pointed out to me that the Arc's two direct-drive laser printers (see Express 105) transfer data to the printer at about two megabits per second. And that's well within the realms of SCSI interface speed. So what about a SCSI interface to the printer's memory, making a 'direct drive' printer that isn't tied to the Arc but can still be used with other computers too? Nothing exists as yet, but it's plausible: watch this space for further rumormongering.

ADDING FONTS

A quick look at some of the Electronic Font Foundry's latest output has shown that many of its fonts are now Postscript compatible. Its latest catalogue lists 35 compatible families, which can all be used on screen, with non-Postscript printers, and typeset (from a Postscript file) by a typesetting bureau. They all look good on screen,

and are properly hinted.

Of course, you're still limited to ten built-in families if you're using a Postscript laser printer (not eleven, as even EFF doesn't yet do a compatible Helvetica Narrow). Further info from EFF on 0990 28698. Some of you who have acquired new fonts may want to use them with Acorn Desktop Publisher. This application needs to have new fonts installed properly in the dtp_config file, and to do this you need to give each a number - the 'Ventura Font Number'. In fact you can give each new font any number. But your documents may then not work on other machines because the font numbers may be different.

A list of the correct numbers appears in the table below, together with the equivalent Postscript font name. Have a look at the Trinity font entry in the config file to see how to go about adding some new ones. There are lots of other Ventura font numbers, but the table covers all the ones you'll be finding in any Postscript printer. It doesn't list duplicates - Beebug Paladin is the same as Pembroke, EFF_AG is the same as Avant Garde and so on.

Anyway, here's the table.

Vogue	Avant Garde	51	Beebug
Book	Bookman	23	EFF
Corpus	Courier	1	Acorn
Homerton	Helvetica	2	Acorn
—	Helv. Narrow	50	—
New Hall	New Cen Sch	20	Acorn
Pembroke	Palatino	21	CC
Sidney	Symbol	128	Acorn
Chance	Zapf Chancery	29	EFF
Trinity	Times	14	Acorn
Selwyn	Zapf Dingbats	129	Acorn

FORTHCOMING ATTRACTIONS

Why have I been batting on and on about fonts? This is simply because I've been playing with laser printers for too long.

Now, just imagine a £50 note. Done that? Good. Now that you have got the hang of it, imagine eight more - and you have what amounts to a thin thin wad. Something that size (and quite by chance, costing exactly that much) can turn a bog-standard Laserjet into a killer Postscript jobbie. Not only that but also Chocks Away (perhaps), Avanti and all sorts of other things.

Ken Coumarin

PC

PERRY PUSHES OFF!

The biggest surprise this week was the news that Roland Perry was leaving Amstrad. Perry - the man behind the CPC, and driving force behind its enhancements for the GX4000 and Plus machines!

But what or who could have tempted Perry away from Amstrad? Well, no-one, Perry's gone off to work for himself, as head of Perry Technology Consultants in Oxford, and good luck

Meanwhile profits have slumped again. Only £44 million this year, after last year's £76 million. That itself was down from the previous year's

£160 or so million!

Amstrad doesn't seem too fussed by it all though, and most corporations are having to tighten their belts in the current economic climate. Bring down interest rates, that's what I say! (Largely because I'm in hock to the building society for a sum which would have made a good Third World debt a few years ago.)

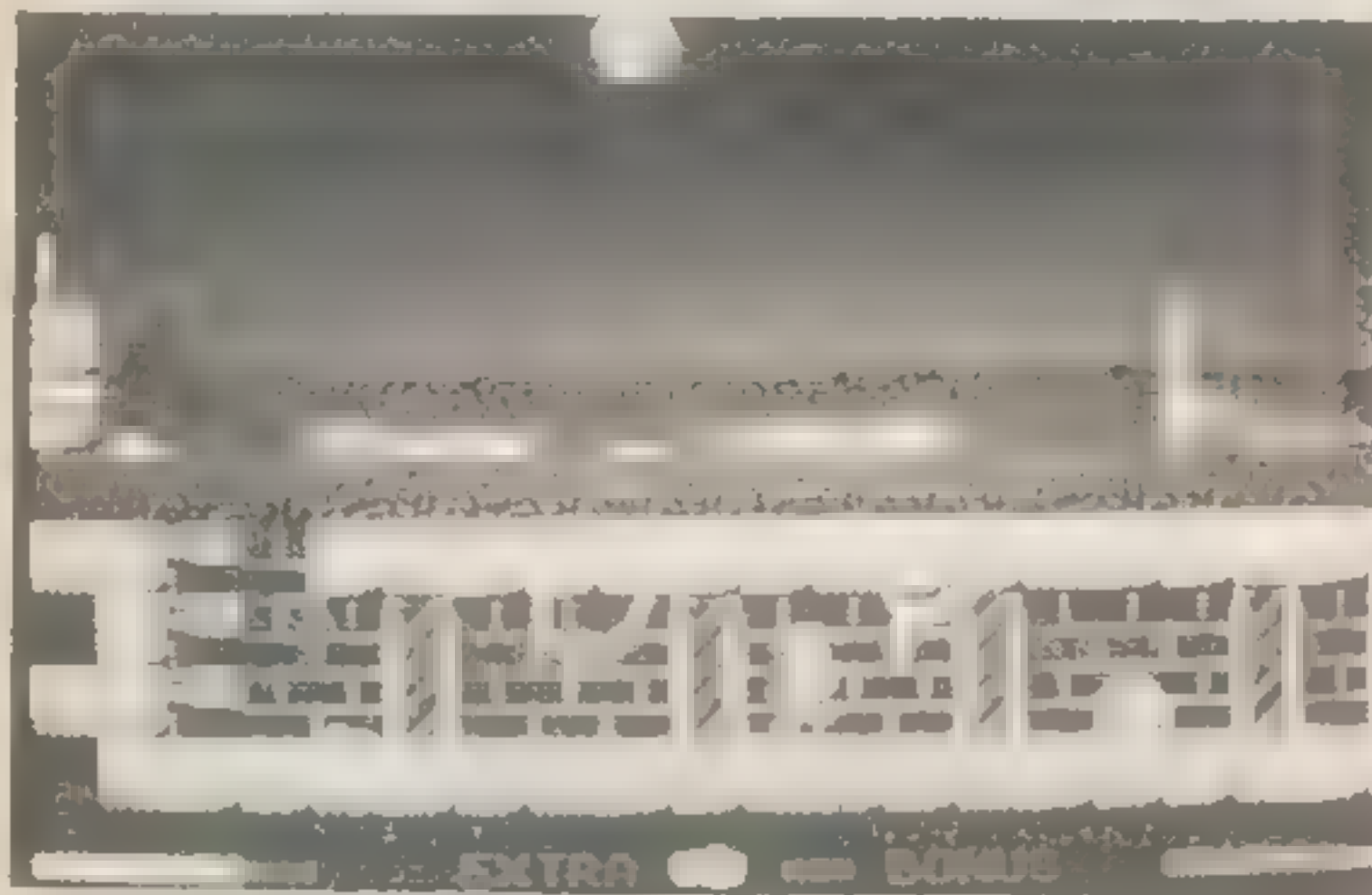
SWITCHBLADE

I'll get the apologies over with straight away. The bulk of this week's column is going to be devoted to Gremlin's first console outing. What a brilliant game!

you're thinking about getting a console or upgrading to a Plus, just take a look at this piece of software (but make it a long look, as we shall see). I've been playing *Switchblade* for about a week now, and I'm utterly hooked. Why? Well it's not altogether the graphics, not entirely the gameplay and not just because of the game's size. It's really

monsters generate. You'll also have to negotiate the odd *Rick Dangerous*-style timing puzzle here and there.

Thrown in for good measure are some pretty nasty end-of-level guardians (even if there are no distinct levels), and these need the right weapon and the right timing if you're to get past, but these are no real problem



• The amazing world of *Switchblade*.

the way Gremlin has combined all those into an excellent whole.

First, the plot. You play Hiro, last of the Bladeknights, as you attempt to piece together the 16 fragments of the shattered Fireblade and destroy the evil Havok, cause of all the trouble.

The action takes place *Rick Dangerous* style, but with one or two important differences. Firstly, although your main sprite is cute, the baddies are not remotely so. Early on you'll meet horrible, scuttling creatures that carry you writhing along in their grip if you're not fast. Later on there are lethal scorpions and other grotesque apparitions.

The second difference is that, unlike *Rick Dangerous*, the labyrinth of tunnels and chambers you're exploring is only revealed as you step into each section. When you're exploring new territory, it really is like a step into the dark.

Hiro has three fighting moves, the type depending on how long you keep the Fire button depressed. A short stab has him delivering a punch, a longer press means a high-kick while, if you keep the Fire button pressed until his 'kickometer' reaches maximum he unleashes a sweeping low-kick, the most powerful of his moves.

Also, along the way there are bonuses to collect which increase the rate at which Hiro's kickometer builds to maximum, and others give the meter one or two points head-start. These act cumulatively, so powerful low-kicks can often be delivered in an instant.

You can collect weapons, too, as you travel on your way, including shuriken and missiles. You only have fixed ammo with these, but there are also replacement ammo packs if you know where to look.

Hiro looks a bit of a weed up against the various creatures in the game, but he's a tough little blighter. Each will send him reeling, but he'll come on back for more - right up until the point where his vitality meter hits zero. Then he loses one of his initial five lives.

And that, basically, is it. There are lots of little tips and wrinkles you pick up on the way, such as standing on packing cases to kick the bad guys in (most can't touch you then) and waiting on each new screen to see where the

once you know how to deal with them.

Early impressions are of a game that's a tad too easy - you can make a lot of progress without coming across any really serious opposition. This is misleading. There's plenty of opposition all right, it's just that you're talking about a seriously big game area. To give you an example, I'm pretty good at *Switchblade* by now. I reckon I've picked up about six of the Fireblade fragments - a tad under a third of the way through the game. But to get even to that stage takes about 45 minutes! And that's *in* action.

What's more, Gremlin hasn't taken the easy route and just stuck in more and more baddies to make the game tougher as you go along. No, the baddies themselves get tougher. You can get half way through the game and you'll only have seen half of what it can throw at you.

The graphics also take a while to impress. You first think you're looking at a (decent) Speccy port of some sort, but you soon get to realise that that sky really is rather well-shaded, and those sprites are detailed and well-animated. And once you get below-ground, then you realise what a good job the programmers have done. The sprites aren't as good as the ST versions, but the backgrounds are better! This is due to the use of the hires Amstrad four-colour modes, split screen techniques and the use of sprites as objects. There's a lot more than four colours in there, I can tell you that!

Switchblade is a game of great subtlety. It doesn't hit you with a bang and then leave you feeling bored and disappointed a day later. Instead, it gradually dawns on you that what you are playing is a superbly crafted, extremely playable game of truly epic proportions.

Like any console game, of course, it costs. Is £24.99 a fair price. For *Switchblade* it is.

PCW PLUS

There's just time for a quick item of techie gossip. Now, did you know that a certain number of German PCW machines were imported a while ago because of demand in the UK for that

POST EXPRESS

FREE 2 YEAR WARRANTY WITH ALL COMPUTERS BELOW!

AMIGA 500 SCREEN GEMS PACK
Amiga 500 £399.99
Days of Thunder £24.95
Shadow of the Beast £24.95
Back to the Future II £24.95
Knight Breed £24.95
Deluxe Paint II £49.95
AND MORE! Total RRP
Over £600 **£364 OUR PRICE**

AMIGA 500 BATMAN PACK
Amiga 500 £399.99
Deluxe Paint II £49.95
Interceptor £24.95
The New Zealand Story £24.95
Batman The Movie £24.95
AND MORE! Total RRP
£524 **£364 OUR PRICE**

AMIGA 500 FLIGHT OF FANTASY
Amiga 500 £399.99
Deluxe Paint II £49.95
F29 Retaliator £24.95
Rainbow Islands £24.95
Robot Monsters £24.95
AND MORE! Total RRP
£519.79 **£364 OUR PRICE**

AMIGA 500 CLASS OF THE 90's PACK
Amiga 500 £399.99
Educational software £660.00
Upon registration each purchaser will receive a file containing: Over 200 pages of advice, guidance and worksheets relating to the National Curriculum and lots more!
Total RRP
£1054.48 **£529 OUR PRICE**

AMSTRAD WORDPROCESSORS
Amstrad 486 £424.95
PCW8512 £534.95

All prices include VAT & Delivery. All computers are genuine UK specification. All computers include a FREE HOLIDAY PACK.
Proprietor: Mark A. Cameron.
Please make cheques/PO's etc payable to POST EXPRESS
Hillcrest House, Suite 3, 49a Vicarage Road, London, E10 5EF.
Telephone: 081 518 7494 9am - 11pm

ATARI 520STE TURBO PACK
Atari STE £399.99

ENTERTAINMENT/PRODUCTIVITY S/W
Indiana Jones, Impossible Mission II, Supercycle, Human Killing Machine, Outrun, Dragons Breath, Blood Money, Anarchy, 1st Basic, Music Maker II + Joystick
For **£364 OUR PRICE**

ATARI 1040 STE SUPER POWER PACK
Atari 1040 STE £499.99
Arkanoïd II, Ice Palace, Black Lamp, Buggy Boy, Chopper X, Eddie Edwards Ski, Ikari Warriors, Marble Madness, Quadralen, Ranarama, Return to Genesis, Road Wars, Seconds Out, Starquake, Olympics, Test Drive, Thrust, Thunder Cats, Wizball, Xenon, Zynaps, Personal Organiser and much more!
Total RRP £953.97 **£444 OUR PRICE**

ATARI 1040 STE HOME/BUSINESS PACK
Atari 1040 STE £499.99
Wordprocessor £49.95
Database £49.95
Spreadsheet £59.95
Business Graphics £39.95
First Basic £49.99
S.T.A.C. £39.95
Hyper Paint £24.99
Prince £24.95
AND PLENTY MORE!
Total RRP £839.71 **£449 OUR PRICE**

Atari Lynx + software £179.95
Sega M-Drive 16 bit £174.95
Sega Master System £74.95
C64 Night Moves Pack £149.95
C64 Mindbenders Pack £149.95
C64 Games System £98.95
Amstrad Games System £98.95

PCW 9512 £564.95
Amstrad PC1512 mono + s/w £449.95
PC1512 colour + s/w £564.95

REGENCY, CELEBRATING OUR 21st YEAR IN BUSINESS OFFER YOU COMPUTERS AT EXTRA SPECIAL PRICES

All prices include VAT & delivery
All computers below come with free holiday pack

Please make cheques/PO payable to:
REGENCY COMPUTERS, BOADICEA HOUSE
CARTER STREET, GOOLE, HUMBERSIDE, DN14 6SL
Tel: 0405 761793. Open from 9.00am - 8.30pm

AMIGA 500 BATMAN PACK

AMIGA 500 £399.99
Interceptor £24.99
New Zealand Story £24.99
Batman the Movie £24.99
Deluxe Paint II £49.99
Amiga Basic, 10 free disks
RRP OVER: £600.00 **OUR PRICE £358.00**

AMIGA 500 GEMS PACK

AMIGA 500 £399.99
Days of Thunder £24.99
Back to the Future II £24.99
Shadow of the Beast £24.99
Deluxe Paint II £49.95
Amiga Basic, 10 free disks
RRP OVER: £600.00 **OUR PRICE £358.00**

ATARI 520FM DISCOVERY PACK

ATARI 520FM £299.99
Bombjack £24.99
Outrun £24.99
Space Harrier £24.99
Emulator ACC £9.99
Discovering the ST £14.99
Neochrome £29.95
Carrier Command £24.99
Control ACC £9.99
First Basic £24.99
STOS Games Creator £29.99
RRP OVER: £550.00 **OUR PRICE £262.00**

AMIGA 500 FLIGHT OF FANTASY

AMIGA 500 £399.99
F29 Retaliator £24.95
Rainbow Islands £24.95
Robot Monsters £24.95
Deluxe Paint II £49.99
Amiga Basic, 10 blank disks
RRP OVER: £520.00 **OUR PRICE £358.00**

AMIGA 500 CLASS OF THE 90's PACK

Publisher's choice
Superbase Personal
Maxiplan Spreadsheet
Deluxe Paint 2
Dr T Midi Recording Studio with free midi interface
BBC Emulator & BBC programs
Amiga logo, 10 free disks, free mouse mat
RRP OVER: £1000.50 **OUR PRICE £499.99**

ATARI STE SUPER POWER PACK

RRP OVER £1000.00

SPECIAL PRICE £362.00

1040 STE SUPER POWER PACK

RRP OVER £950.00

SPECIAL PRICE £442.99

1040 STE HOME/BUSINESS PACK

RRP OVER £830.00

SPECIAL PRICE £443.99

Best prices always on Amstrad, Epson, Olivetti, Commodore.
Ring for a quote. Free regular mailing list.

COMPUTER REPAIRS

G B SYSTEMS — LINK
The Repair Specialists

Sinclair 16K,48K,128K,+1,+2,+3
Commodore VIC20,16,64,128,Amiga
Amstrad 464,664,6128,8256,8512,9512
Acorn Electron,BBC,Master,Archimedes
Atari 400,800,ST520,ST1040

All the above are on a fixed labour charge plus the cost of the parts

IBM PC,XT,AT,PS2
Amstrad 1512,1640,2086,2286,2386
IBM Clones Any make / model undertaken

The above are charged on a hourly rate

Most printers and monitors repaired
Spares we can supply most parts from single ICs to complete exchange boards
Sales(new/secondhand)-Installation-Cabling

Why not save hassle and send us your computer for repair by post

Phone 081 979 5638

86 Walton Road East Molesey Surrey KT8 ODL

150 Space public car park at rear of shop

machine? Yes, yes, I know the PCW's a boring old box for vicars and train-spotters, but no, listen will you? It seems these German PCW's didn't have the normal PCW edge connector for expansion at the back, but a proper D-connector. (Getting those feelings of déjà-vu yet?) Well now, recognition of the problems this might cause, Amstrad made available a special adaptor that let owners of the D-socket PCW's use all those existing edge-connector type peripherals.

Now wouldn't it be a coincidence if that adaptor should also plug straight into a Plus? And if all those existing CPC peripherals would thereby likewise

plug into one of the new machines? That wouldn't be coincidence, that would be a bloomin' miracle! Yet those miracles do happen (in computing as well as broadcasting) and these special Amstrad PCW dongles really will, it seems, let Plus owners plug in all those beloved CPC bits and pieces they've accumulated over time.

Getting one is a problem. Your best bet is probably going to be to try to get one from Amstrad direct. If they won't cough up, there's always WAVE, which is making its own version and can be contacted on 0229 870000.

Rod Lawton

64



• When your Druid energy runs low, simply stand for a moment on a recharging grid.

NEW MILLENNIUM

Old habits die hard, and to prove it Millennium has just made the second Druid sequel, Warlock.

The first, Enlightenment, was a Firebird game just like the original. Unfortunately, it was so much like the original, which players controlled a blue robed Druid's exploits in a somewhat Gauntlet-like world, that it didn't do that well. Nevertheless the azure adventurer's success is not only being relived with the new game in Warlock but the original Druid game is being included in the package. With any luck it should be out in the next few weeks.

GET YER CABLES

York Electronic Research is determined to bring C64s and PC/XT/AT compatibles closer together with the launch of a new cable. The CBMPC Link connects C64 peripherals to any standard IBM compatible and offers menu driven file transfer software to copy data and programs between the two systems' different disk formats. The link will also drive a Commodore 64 printer from a PC without any effort. The CBMPC Link costs £34.50 including VAT and postage which puts it in the realm of devices of most use to developers.

You can have a chat with YER discuss its potential on 0904 610722.

SCROOGING

It's well and good to go on about new releases and bits of hardware, week in and week out but that can be frustrating if cash is hard to come by (and when isn't it?) so perhaps now is the time to consider the possibility of bargain hunting, either for yourself or

for a present for somebody (as it's getting worryingly close to that time of year). A colleague with hungry eyes recently returned from one of the All Format shows at which he said he'd seen a C64SX for forty quid. Now forty quid isn't something that most of us just happen to have spare but it still sounds like one of the best ways to get into home computing or computer games on the cheap. If you don't remember this ill-fated luggable, it was a by-product of Commodore's unfathomable mid-eighties model release policy. It was a C64 with a 1541 disk drive and something like a 6 inch colour monitor built in – in other words, everything you need to get into a branch of home computer entertainment which is perhaps more active now than it has ever been. There are new All Format shows the time so it's worth keeping an eye out for them in the press. They are certainly the best places to pick up a C64 of some description for the right price.

The main advantage of the shows in this respect is that you can examine the condition of the computer before you part with any cash, unlike when you respond to a classified advertisement (although these too are good places to look for small economic miracles). Another possibility is to see what members of computer groups keeps locked away in their 'don't use it any more' cupboards. Basically, you can trundle down to your nearest independent software or hardware shop and ask them if they know of any active home computer clubs in the area. Independent retailers usually know of at least one group of some description and even if the group is currently going through an Atari phase



Your computer is
the only teacher
which YOU CONTROL!

Whatever your age, whatever your subject
- let your computer help you learn.

Subjects include ...

French, German, Spanish, Italian, English
History, Geography, Science, General Knowledge,
Football, First Aid, Sport, England, Scotland,
Natural History, Junior Spelling and Arithmetic

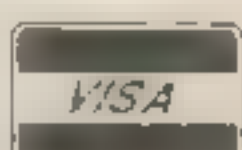
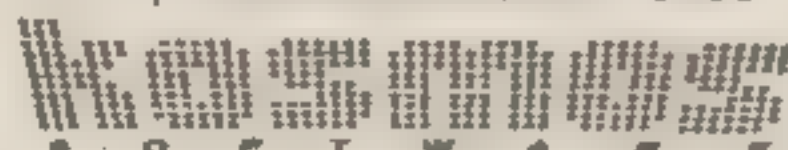
Available for most popular
home & business computers



Kosmos are specialist producers of Educational
Software designed to help you enjoy learning from your
computer. Our programs even allow you to add your
own lesson material.

Write or telephone for a FREE 20-page BROCHURE
of our Educational & Leisure software
Please state your computer type

Kosmos Software Ltd, FREEPOST (no stamp needed)
DUNSTABLE, Beds. LU5 6BR
Telephone 05255 3942 or 5406



or something equally inexplicable, there's a good chance that a member will have just what you're looking for. What you have to do to get people to part with old treasures like an unused C64 is listen for the right responses. If the owner only talks about his old Commie in the past tense, you're on to a winner. On the other hand, if he says the last game he bought for it was Chase HQ II, forget it. It's still his thang...

Once you've secured the machinery, you're going to want to acquire a good games collection to go with it. Again, anywhere you look for the right equipment at the right price would be a good place to check out for software and there's a fair chance that

you'll get some software bundled with your techno-steal, though this might not be to your tastes. In fact, you can risk the high street in your search for good games and get the majority of companies' back catalogue reasonably cheaply. The budget scene is in a very healthy state, with both new and re-released beauties on offer from £3 a shot. Then there are the compilations. These are either thematic (sports, shoot-'em-ups and adventures) or portfolio style packages of companies' best efforts. The more expensive of these tend to cost around £20-25 for five games however, so it would be wise to make sure you've scoured the budget stuff before you make a buy.

Sean Masterton



• The MF356C, the new 4Mb standard half-height 3.5inch FDD from Mitsubishi.

GOING UP IN THE WORLD

The numbers of the chips hanging around my spare bedroom have taken a marked upward turn in the last few days. First came the 80386SX card from Hypertec.

The Hyper 386SX is a tiny board which plugs into the 286 socket of a PC AT and turns it into a 386. Sounds unlikely? Well I'm pleased to report that it seems to work fine, converting my 12MHz machine painlessly into a 386 without so much as a software driver in sight. I'm hoping to get hold of a Sota board which does the same thing in a day or two, so I'll give you a full report then. Meantime you can get more info on 0672 63709.

PLUS 100

The other power chip to turn up did so inside an AST Bravo 486/25 which, as you might well guess, contains an i486 chip running at, surprise surprise, runs at 25MHz.

I've never really had a chance to play with a 486 before, and I have to admit to being a little bit disappointed. Now that is really no criticism of the AST, which seems to be a very well built and specified machine with all the mod cons and such like one expects. No, the problem lies in the fact that the 486 is not that fast. It's not the quantum leap you felt when you upgraded to an AT, or even the super new multi-tasking twiddly bits the 386 added. The 486 is fast, but not much faster than a 33MHz 386 in tandem with an 387.

It just doesn't excite the way previous generations of technology have. Perhaps the 586 will do that when it finally makes it.

That said, the 486 will be the standard chip inside computers before long as soon as bulk manufacture brings the costs down to a more reasonable level. And if you are in the market for a 486, the AST Bravo is a very strong contender. It feels immensely solid and has nice touches like screws on the back which can be undone by hand.

Inside it has a large motherboard which contained all the VGA circuitry (supporting SuperVGA), serial ports, hard drive controllers on the rest. In fact a fully functional machine has all its slots free. The slots are ISA (AT) ones, which will cut down the cost but means that high performance peripherals are ruled out - a shame with such a highly specced machine.

The 486 chip itself is tucked away under the drive bays, and I did wonder a bit about ventilation and overheating problems, but I had no trouble at all with the machine.

If this is the way computing is going, I want one, but I can't quite stretch to the £2,495 AST is asking. If interested, phone the company on 081-568 4350.

BIGGER STILL

And speaking of the future, Mitsubishi has just announced a new floppy disk drive which will be able to store up to 2.88Mb on a disk.

XEROX

A unique opportunity to purchase Professional products at greatly reduced prices

-Leaflets Sent On Request-

LASER PRINTER

with inbuilt Photocopier

*10ppm *HPLaserJet*

*Low cost Toner

512K RAM 1MB RAM

£650 £750

3 months on-site warranty

Xerox 4045R

INKJET COLOUR PRINTER

* Hi-Res, Versatile Performance

*Ideal for Amiga Users (4096 shades)

*Optional Sheet Feeder

*Parallel Interface

£599

3 months warranty

Xerox 4020

VENTURA (V2)

*inc. Professional Extension

*3 1/2" & 5 1/4" disc sets included

*Xerox Users Helpline

*Brand new sealed stock

£245

All prices exclude VAT and Carriage / Insurance. Order by phone for next (working) day delivery

Access VISA accepted.

COMMONSIDE

HARDWARE SERVICES LTD

Unit 13, 193 Garth Road

Morden Surrey

SM4 4LZ

Fax
081-330 4838

Magnetic Media

**AMIGA PUBLIC DOMAIN
BLANK DISKS FROM 37p
EACH INC VAT
PD:- £1.80 each or
£16.50/10 inc VAT**

**A small selection from
our vast range**

359/360 Star Trek 3	1 Meg
443 Coma Demo	1 Meg
444 Dope Intromaker	0.5 Meg
445 Magnetic Fields Music	0.5 Meg
453 Cryptic UK Demo Comp	0.5 Meg
459 Time Circle Demo	0.5 Meg
SPECIAL OFFER! ALL 7 DISCS - £11.50	

VICTORIA ARCADE, *Postage Inc*
ALDERGATE, TAMWORTH, STAFFS
S79 7DL TEL: 0827 59566

The ST Club

49 Stoney Street - Nottingham - NG1 1LX - (0602) 410241

ST Applications.

Over two years ago New Computer Express described our newsletter: "To call it a newsletter shows a terrific amount of modesty on their part... It really is packed with information, with more concentration on the serious side of the ST." ST Applications is a complete re-design of The ST Club Newsletter that has grown to 3,500 subscribers since we started it four years ago. Each monthly issue runs to at least 60 A4-pages. If you would like to subscribe or receive an evaluation copy please complete the form below.

Fontkit Plus 3.

The essential font utility for the ST. Edit or create GEM fonts, Signum fonts, screen fonts and downloadable printer fonts. Incorporates a suite of drawing tools, plus block manipulation tools, and it will import Calamus, Degas and Macintosh fonts. Price: £19.95.

UIS III.

Powerful replacement for the Atari Item Selector. Universal Item Selector III incorporates a host of utility functions: format disks, copy, move and rename files and folders, create folders, find files, set file paths, etc. "You'll wonder how you ever lived without it", ST Format, December 1990. Price: £19.95.

The Catalogue.

Our collection of PD and Shareware disks runs to over 2,000 disks and we guarantee same day dispatch on all orders. Our Free Catalogue - (46-pages A4) details these disks and all of our products and services: Books, Budgie Disks and Laser Printing. We also publish: Astronomy Lab (£19.95), Key Master (£6.95), Oxford Chess (£9.95), Molgraph (£12.95), Guides to Timeworks DTP (£9.95) and 1st Word (£6.95). Details of these are in our current catalogue. Write or telephone for your copy today.

Please send me:

- ☐ 12-issues of ST Applications (£15).
☐ Sample copy of ST Applications (£2).
☐ A free copy of the ST Club catalogue.

Cheque/PO made payable to
"The ST Club" for £ enclosed

Your guarantee: If at any time you want to cancel your subscription you may do so simply by writing to us. The balance of your subscription will be refunded in full.

From:

For the technically minded it is 4Mb unformatted, has an access time of 94ms, a steeling time of 15ms,, spins at 300rpm, has 80 cylinders of 160 tracks and can transfer data at 1Mbit per second.

In more straightforward terms it will read and write conventional 720K and 1.44Mb disks, and doesn't need factory-formatted media.

If you fancy upping your storage capacity by a few megs, give Mitsubishi on 0707 276100.

OTHER SIDE

Games publishers don't quite seem to have caught on that the Cold War is over. The nearest they come is the recent spate of games from the Soviet perspective, but these ignore the fact

that the Russkies aren't in the business of nuking us anymore.

However, if you fancy a crack at the NATO forces before they are finally withdrawn and go back to molesting young recruits, try *MiG-29 Fulcrum*.

This simulation of the Soviet attack aircraft from Domark and has been, it is claimed, developed in consultation with TASS and was 'designed by the Kremlin'.

Missions include flights over the Sino-Russian border and finding a US sub trapped in ice. Diversions along the way include a mid-air refuelling manoeuvre.

The game will be out and about by Christmas with no price yet announced.

Stuart Anderton and Steve Patient

spectrum

YULE AGAIN

Christmas is great isn't it. The fun, the refreshing break, the tradition. Talking of tradition, that olde Yuletide custom of collecting together a few games that no one wants to buy anymore, bunging them in a big shiny box and thinking up a spurious common theme they all just about come under is being enacted again by every software house with lots of games in the cupboard under the stairs to get rid of.

Now US Gold has lumped five Speccy conversions of Sega coin ops in one package and called it, a desperate attempt to appear hip and groovy, *The Master Mix*. The five games are *Turbo Outrun*, *Super Wonderboy*, *Crack Down*, *Thunder Blade* and *Dynamite Dux* which are getting on a bit in the exciting fast moving world of Speccy software.

Turbo Outrun is the sequel to *Outrun* and was more of a clapped-out Lada than a Ferrari with it's pretty dull gameplay and distinct lack of thrills. *Super Wonderboy* isn't a technically jaw dropping conversion of the platform style arcade game but it's got a spooky kind of addictiveness that should keep your finger from prodding the reset button for a while. *Crack Down* is a birds-eye viewed maze shoot-'em-up that's best played with a friend. *Thunder Blade* was the big Chrimbo game of two years ago and on the Spectrum it's a pretty faithful conversion. Unfortunately, the original arcade machine wasn't all that compelling to play and as the Speccy lacks the stereo sound, and the moving bits it's a decidedly flaccid affair in my opinion. *Dynamite Dux* is about the best game on the package, being a lovely and fluffy action packed game which has stood up pretty well to the passing of time.

All in all though, it's a pretty poor package which doesn't come out too well when compared to all the other big shiny boxed compilations sure to be hitting the shelves of a retailer near you for Chrimbo. With it's rivals including titles that only seem to have been out a few weeks, the decidedly old and fraying around the edges games on this one make the whole pack look well past its sell-by date.

CONVERSIONS

It's always encouraging to see brave programmers attempt to convert some hugely impressive 16-bit mega game into the slightly humbler, battle weary but still very capable confines of the Speccy. And when they pull it off, good games usually result.

Shadow of the Beast is the Speccy conversion of a very swanky and professional looking 16-bit masterpiece of recent times, programmed by Psygnosis. It's a fantasy slash-'em-up type thing with the requisite amount of evil monsters and dark forces out to stop the sword-wielding hero from rescuing the princess/finding the treasure/defeating the evil magician and all the usual whacky that go on in these sort of games.

The graphics that gave Amiga owners palpitations when they first saw it have been admirably carried over to the grainy monochrome detail of the Speccy's world, but really it's the gameplay with it's emphasis on exploration and simple puzzle solving that appeals. Basically it's not only a damn fine conversion, it's also ample proof that the Spectrum's days as a games playing computer are far from numbered.

BARGAIN TIME

I know a bargain when I see one and I've just spotted a truly corking one in the latest issue of *Your Sinclair*, where wily old adventure columnist Mike Gerrard is offering an opportunity to enter the world of adventure writing for a very small sum indeed.

He's somehow managed to blag a deal with Gilsoft over its new *Professional Adventure Writer Starter Pack*. This is the main PAW program that's turned out some of the best Spectrum adventures over the last few years and with a manual to explain the basics.

If you get to grips with that a *Technical Pack* is also available, which lets you completely customise and generally mess around with your creations.

If you use the coupon from YS you can get the *Starter Pack* for only £7.95, which I don't think's much to

pay for the means to write your own professional quality adventure. This is a veritable snip if I ever saw one.

MARK POKES

That aged regular contributor of hacks to this column, Mark Taylor of, Manchester, has sent in yet another batch of pokes for you Multiface owners, the generous person, so here goes.

GAME/POKE/EFFECT

Super Hang-On
(Track one)/49909,201/Infinite time
(Track two)/49694,201/Infinite time
(Track three)/49676,201/Infinite time
(Track four)/49820,201/Infinite time

Midnight Resistance /
36480,0/Infinite hearts

Footballer of the Year
50264,0/Infinite goal cards

Action Biker
55679,0 +61266,0/Infinite sleep

As well as this Mark also offered the following programming tip which is a bit unusual so I hope you will be able to make some sense of.

If you POKE (PEEK 23635+256*PEEK 23636+5)0, any line that was on Line 1 will be changed to line 0 stopping people from editing it. If you wish to read it again just do the same poke but with .1 instead of .0. I'm none the wiser but the usual large quantities of good tidings go to Mark!

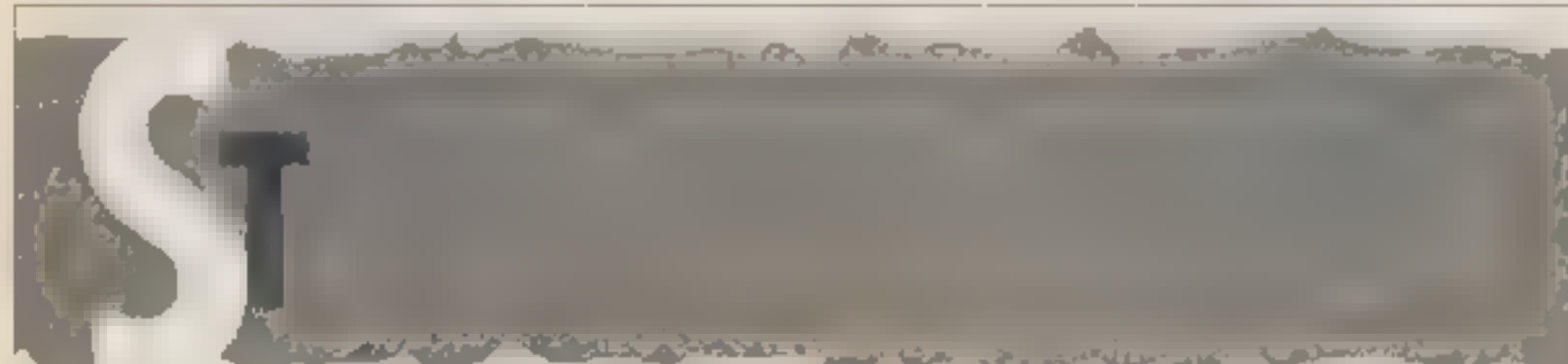
WANTED: ANYTHING AT ALL SPECCY RELATED

Speccy-related contributions are always wanted in these parts, otherwise I'm not really going to have a hell of a lot to write about. I'm keen to see software (big name stuff as well as independent back bedroom titles), fanzines with Spectrum coverage, details of user groups as well as comments and criticism on the column and any other issues you feel are at all of any interest to the great Speccy-going public at large today.

Tips are welcomed with trumpet fanfares and cheering, so if you've got knowledge to impart on any software (pokes and cheats for games, user wrinkles and info for serious stuff etc) please send everything relevant to Robin Alway's Spectrum Column at New Computer Express, 30 Monmouth St, Bath BA1 2BW.

I look forward to hearing from you all soon.

Robin Alway



US - BUT WHAT ABOUT US?

The obvious question then, is when do we Europe (or Yurp as the Americans insist on calling us) get to see the new machine? Atari UK is refusing to say a word, insisting that what Atari US does is none of the UK branch's business (can you believe that?).

Clearly we're looking at 1991, a year I predict will see the turning point in Atari's fortunes. There are several indications that the company is trying hard to put behind it the stupidity and incompetence that marred its performance throughout '90.

The whole thing still hangs in the balance, of course, and Atari has tested the long-suffering patience of its customers to the limit. Another screw-up like the STE fiasco (see Express passim) and we all start to look elsewhere for our next computer investment. But I live in hope.

THE ST VIDEO REVOLUTION

Syntronix has announced the imminent launch of a range of specialised interfaces for digitising and outputting to video tape.

Among others, Syntronix is offering what it claims is the ultimate Atari recording system, using the high quality RGB signals provided by the ST. Super VHS and Hi8 models are offered which give 'awesome clarity and power' to the animator, illustrator and cartoonist.

And results can be outputted on replay from the VCR back into the ST's own monitor in RGB form for outstanding reproduction. According to Syntronix, "This revolutionary product

eliminates the need for Super-VHS compatible Genlock devices and saves the user hundreds of pounds in extra special Super-VHS television sets, saving even more money" - which can't be bad.

The price is £229.85. There is also a professional RGB splitter, which is said to improve the results when used with digitising software, compared to conventional RGB splitters, at the same price.

For more details, call Syntronix on 0332 553024.

LETTER FROM ANOTHER COUNTRY

Someone once said that the past was another country. I can't be sure, but I think it was me, just then.

Anyway, my thanks to Paul Cheverton, inhabitant of Shanklin on the Isle of Wight, for his nostalgic letter. Like many others, Paul splashed out the cash for an Atari 400 (remember them?), just for the pleasure of playing Star Raiders - an 8K (8K!) cartridge game of what might kindly be called 'chunky' sprites and frankly sparse sound effects.

"Ah yes," writes Paul, "I remember it well... playing into the early hours of the morning, desperately searching for the Mother Ship when your long-range radar is down and you are low on fuel. I dare say Beeb owners have the same memories about Elite."

Technology has moved on, Paul continues, and many Ataris later he's had a lot of fun and use out of programming, graphics and DTP. Kids have also come along (not, I think, the

AMAZING PRODUCTS

Incredible Prices

For your Atari ST Power Floppy Drives

Buy a Power Floppy drive with confidence from the specialist in Atari Peripherals. The PC720 comes with a built-in Power supply (beware of those with a bulky external PSU). The PC720E is powered from the joystick port and uses the latest low power Sony mechanism to give guaranteed reliability at an unbeatable price.

PC720 3.5" With Internal PSU	£59.99
PC720E 3.5" Joystick Powered.....	£49.99
Internal Replacement 720K	£39.99
5.25" Drive	£99.00
5.25"/3.5" Multidrive.....	£199.00
Blitz Turbo Backup	£19.95
Blitz with any drive	£15.95

Slimline Series Hard Disk

Possibly the smallest hard drive ever made for the Atari ST, the Power Slimline weighs in at a tiny 23cm x 10cm x 3cm (just three cm high!). It comes complete with the powerful ICD Hard Disk Utilities and a full manual. Can be powered from the supplied lead (requires the ST to be opened) or from the optional Power Supply.

40MB	£399.00
110MB.....	£599.00
Power Supply	£25.00

Series 900 Hard Disk

The popular Series 900 Hard Drive is now available at a new low price! The drive comes complete with the powerful ICD utilities and a full manual. All drives feature a fan and a DMA through port. Can be powered from the supplied lead (requires the ST to be opened) or from the optional Power Supply.

40MB Limited Offer	£299.00
100MB	£649.00
200MB	£999.00
Power Supply	£49.00

Software & Peripherals

Neodesk V3.0.....	£34.00
Lattice C V5	£89.00
New! Hisoft ProFlight Simulator.....	£34.95
Naksha Mouse	£29.95
Optical Mouse	£25.00
Star LC200 Colour Printer	£229.00
Star LC10 Mono Printer	£169.00

WE SUPPLY ATARI ST AND COMMODORE AMIGA COMPUTERS AND PERIPHERALS AT BEST PRICES! PLEASE CALL!

All items on this ad, may be ordered by postal mail order or by telephone.

We accept Access and Visa.

Please make cheques and POs payable to Power Computing.

POWER COMPUTING

44a Stanley Street, Bedford, MK41 7RW

0234 273000

(5 lines)

Prices include VAT and delivery. Please add £7.50 for overnight courier delivery if required. We reserve the right to change prices and product lines without prior notice.

See E.E.C Ltd at the Computer Shopper Show on stand E23

★ MICRODRIVE EXPANSION KIT ★

Includes Microdrive, Interface 1, Booklet, Network Lead, Introduction	
Cartridge and flex connector	£59.95
MICRODRIVE EXPANSION KIT AS ABOVE WITH 2 MICRODRIVES	£69.95
EXTRA MICRODRIVES (Reconditioned)	£16.95
MICRODRIVE CARTRIDGES	Wallets of 4: £12.00 Boxes of 20: £55.00
POWER SUPPLY UNITS 48K (Standard)	£8.95
POWER SUPPLY UNITS for Heavy Duty, or 128K	£10.00
POWER SUPPLY UNITS for QL	£12.00

★ SPECIAL OFFERS ★

Philips 9CM073 Professional Colour monitors	
14" High res RGB EGA	£220
3.5" Universal (MGT Lifetime) Disk drive cased with PSU for Spectrum, QL, Atari, Amiga etc	£85
Lead for D/Drive	£10

★ PRINTER CLEARANCE ★

MANNESMAN TALLY MT81 Heavy duty dot matrix printer 190 CPS, 26CPS, NLO	
Epson IBM compatible	£130
Serial Interface available if required	£24
DAISYWHEEL PRINTER C-ITOH SERIAL TYPE 20cps, Paper Width 13 ins	
Chars/line: 115, 138, 172 selectable on top panel Can proportional print, also make 1+3 copies Inc lead	£140.00
ALPHACOM PAPER: ONE ROLL: £3.50 FIVE ROLL PACK: £12.95	

★ SINCLAIR QL ★

THE EXPANDABLE SYSTEM FOR SMALL BUSINESSES, BEGINNERS AND EXPERTS
QLs COMPLETE, JM FULLY TESTED AND WITH 6 MONTHS WARRANTY
SOFTWARE: QUILL - Word Processor, ABACUS Spread Sheet, ARCHIVE: Records, EASEL; Business Graphics. **£125**
CUSTOMERS BUYING ONE OF THE QL COMPUTERS ARE GIVEN ONE YEAR'S FREE MEMBERSHIP TO QUANTA (Help, Newsletters, & 40+ library programs - most Free).
QUANTA MEMBERS CAN OBTAIN A £5 DISCOUNT.
★ The JM QL can run all the Programs available for the QL system ★
The JS ROM CAN BE FITTED ★
BUSINESS SOFTWARE (Suitable for Standard QLs)
SMALL TRADERS PACK £24.95, INVOICER £19.95, GENERAL LEDGER £19.95, SET OF THREE £50, MAIL MERGER £14.95, FILLER PACK £14.95
Also STOCK ACCOUNTING £39.95, (for expanded QLs) Send S.A.E for DETAILS & QL FULL PRICE LIST.

PRICES INCLUDE VAT. TERMS CWO, ACCESS OR VISA.
Minimum order £100. Carriage £8.00 for printers & QL overseas (£20.00).
Other items £3.00 overseas (£6.00).

EEC LTD

18 - 21 Milsbourne House, Chiltern Hill, Chalfont St Peter,
Bucks, SL9 9UE. Tel: 0753 888866. Fax: 0753 887149 (AD7)

DDM

DICKINSON DAVY & MARKHAM

0652
53666
COMMERCIAL
TENDER

On the instructions of Messrs G Johal
and R S Preece, Touche Ross and Co.,
Leeds, Joint Liquidators of
Merit Health Systems Limited.

COMPUTER SALE BY TENDER

Including: CPU's by Olivetti (M209; M250E; M300), ICL (PC Quattro; DRS D9), IBC (Multi-star4), Apricot (VX);

Terminals, Monitors and Keyboards by IBM, ICL, Wyse, Apricot, Microcolour, Tatum, Qume;

Laser and DM printers by IBM, ICL, Olivetti, Epson, Brother, Hewlett Packard, Newbury Data; Colour Plotter by C-Itch;

Plus large quantity of miscellaneous peripherals including: Tape Streamers, Modems, Junction Boxes, Power Supplies, Floppy Drives, Cards, Cables, etc; software and/or manuals include Informix, Sea Change, Apricot, Ventura; Saville Model D Overhead Projector, etc.

On View

Tuesday 4 December 1990, 10.00am to 6.00pm
Brigg, South Humberside
(3 miles Junction 4 M180)

Tenders Close

Monday 10 December 1990 at 5.00pm

Full particulars in
catalogues (£1.00 by post)

Fax: 0652 535553
Wrayby Street
Brigg
Dereham

fault of Atari) and music next on his list for joint experimentation. "But nothing has ever quite matched the total escapism of that very first game. Perhaps it really was a classic piece of gameplay, or maybe, because the whole technology was so new, the effect was so total."

Paul doubts whether he'll ever recapture the thrill of catching up with a squadron of Zylons at three in the morning, giving them a good blast of photon torpedoes and flying on through the debris.

success of the ST series, which presumably includes you.

Not only was it time the increasingly knackered-looking Mega series was phased out - something that's been stated in this column half-a-dozen times over the past few months - but more importantly, it indicates Atari's renewed determination to present the ST as a serious (what the Murcans call a 'productivity') machine.

Above all, the introduction of that 16MHz element - twice as fast as your ST - is causing considerable



•The new Mega STE: Why bother with a Mac when you can have all the power of this baby, without having to splash out all that money (though, to be fair, this one isn't exactly cheap either)

Ah yes, those good old days. I wonder what the answer really is. Are games better looking but not as playable these days? Or is Paul just being a little too romantic?

My own theory, for what it's worth (about 7p) is that programmers just simply have too wide an audience to keep everyone happy. Remember, they have to bear in mind not just people like Paul and others who've seen hundreds of games and still need to be impressed and tested, but also people who are bemusedly looking at their very first ever computer game and thinking, 'What the hell's going on here?'

And then there are others who blandly insist that computer games have never been better, and we should all simply stop moaning and hankering after the past.

Still, I would be very grateful for any light you, dear reader, or anyone else you know, can shed on the whole mystery. Write to: 'Blast From The Past', Steve Carey, 30 Monmouth St, Bath BA1 2BW.

ATARI TAKES THE INITIATIVE

The announcement from Atari in the States (see Express news pages last week) of the launch of the new 16MHz Mega STE is bold, impressive and deserves warm congratulation from anyone with an interest in the continued

excitement among ST watchers. Without getting into the 'my machine is better than yours' bollocks, this easily outpaces anything the Amiga can do.

Not that the new Mega STE is likely to be anyone's idea of a games machine. Its introduction with the new 'budget' Atari laserprinter and bundled with any one of a variety of DTP packages indicates exactly at whom this machine is aimed.

Atari's timing could hardly be better. The recent announcement of Apple's price-slashing on its cult Macintosh series clearly places more pressure on Atari's attempts to get the ST taken seriously as a DTP machine.

But the advantage the Mega STE has is obvious: output. It's no good rushing out and buying a Macintosh Classic if you're still faced with the prospect of spending twice as much on any kind of decent printer.

What's really attractive is being able instead to buy yourself a \$3,000 bundle that includes hardware (including the superlative Atari monochrome monitor), printer and real DTP software (ie Calamus).

"CHEEP" SOFTWARE

A query from Sue Williams of Ilkley in Yorkshire. "I've ordered a couple of Public Domain software catalogues," she writes, "and one thing puzzles me. What exactly is Budgie?"

Paperback Software UK Limited lives. (Despite what you may have read.)

It's no real surprise that most reports of the conclusion to the long-running saga concerning the "look and feel" copyright lawsuit brought by Lotus Development Corporation of Boston, against Paperback Software International Inc., of Berkeley California have tended to emphasise the sensational, and avoid important details. New Computer Express was no exception. But by being incomplete, these reports have allowed a very misleading interpretation to be placed on the actual event.

The fact is that Paperback Software UK Limited has not been and is not involved in any way with the corporate and litigious affairs of Paperback Software International Inc., of Berkeley, California. Paperback Software UK Limited is an independent UK owned company that publishes, co-publishes and distributes a broad range of software, from a variety of sources. *VP-Planner* happens to be one of these titles.

Paperback Software UK Limited endorses the views expressed by Lotus, encouraging competition, creativity and innovation in software development. That's why Lotus developed 1-2-3 from the original concepts of Dan Bricklin's *VisiCalc* software, and *VP-Planner* built on the Lotus standard, but also included additional features that have subsequently been adopted by Lotus and others.

There has never been any question whatsoever that the code and programming of *VP-Planner* has been in any way copied or reverse engineered from the code of 1-2-3. We take strong exception to the innuendo in the use of the word "theft" in the press release issued by Lotus.

The issue for us - and you - should be that of the functionality and value of the software. This aspect has been a casualty of the war of litigation between Lotus Development and Paperback Software International, being far less interesting for bloodthirsty journalists, seeking to highlight the confrontational and melodramatic aspects of the case. And all the while Lotus has been busy teaching PSI a lesson in the economics of US litigation, MicroSoft with Excel, and Borland with Quattro, have been making considerable inroads into Lotus' dwindling market share. The user interface developed by 1-2-3 is a minor technical aspect of the software; but at one point in time, the encouragement offered by Lotus - and virtually demanded by journalists - to conform to what many described as the "industry standard" suddenly became an 'infringement of copyright'. It is the work of an afternoon for the developers to change it...

In fact, we were relieved to realize that the shackles of Lotus conformance, required by PSI for the US marketplace, had been cut

loose by the decision of PSI to submit to Lotus's demands, and return the exclusive rights to the 1-2-3 interface to Lotus.

But where does Digital Research now stand with the question of DR DOS and MSDOS? What does this mean for IBM and all those who chose to borrow the look and feel of the IBM PC? When proprietary environments like Windows and the Apple Mac interface positively make a virtue of their consistent look and feel, just who are we all to believe any more?

But there is one thing of which you can all be certain. Paperback Software UK Limited is most certainly not stopping selling superior spreadsheet (and other) software at prices that make large publishers, with large overheads and large expenses, wince. We have many innovative features in development that can be made simpler, faster and more intuitive by taking a more logical approach than slavishly following a 1-2-3-like interface.

So we'll let the customers decide!

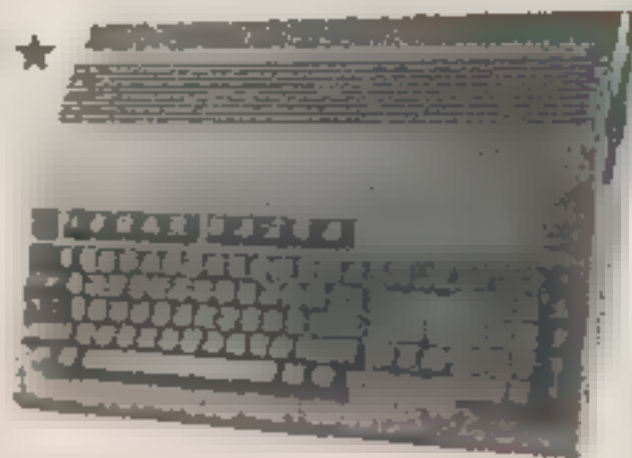
Call 0245-265017, or fax 0245 263969 if you would like to learn more about the products of a company that believes that customers should be the judges.

AMIGA DEALS

AMIGA 500 STANDARD PACK

- ★ A500 computer ★ 512k RAM ★ 1Mb disk drive ★
- ★ mouse ★ modulator ★
- ★ power supply ★ operation-manuals ★
- ★ workbench disks, etc. ★

ONLY **£339.95**



AMIGA 1 1/2 MEG UPGRADE BOARD

- ★ Uses latest 4 chip design
- ★ Memory on/off switch
- ★ Option of battery backed clock
- ★ Full 12 month guarantee
- ★ New super low price

£29.95

Clock Version

£34.95

A590 HARD DRIVE

- ★ Official Commodore hard drive
- ★ Sockets for 2Mb RAM
- ★ Complete with free software pack
- ★ Built-in P.S.U./cooling fan

£269.95

MOVE OVER TURTLES - ROBOCOP AND HIS PALS ARE IN TOWN!

ROBOCOP

BATMAN



INDIANA
JONES

GHOSTBUSTERS II

AMIGA SCREEN GEMS PACK featuring ROBOCOP AND FRIENDS

Just Look At What You Get

- ★ Amiga as in standard pack
- ★ Days of Thunder
- ★ Shadow of the Beast II
- ★ Back to the Future II
- ★ Nightbreed
- ★ Deluxe Paint II

PLUS exclusive to Dowling

- ★ ROBOCOP
- ★ BATMAN the Movie
- ★ GHOSTBUSTERS II
- ★ INDIANA JONES and the Last Crusade

All for the incredible price of **£369.95**

THE ALL NEW ULTIMATE GAMES PACK

Take the pack on the left featuring Robocop etc and add the following:

EXCLUSIVE DOWLING MEGA TEN GAME PACK comprising RVF HONDA, DATASTORM, DUNGEON QUEST, E-STORM, GRAND MONSTER SLAM, KID GLOVES, POWERPLAY, SHUFFLEPACK CAFE, MICROPROSE SOCCER, TOWER OF BABEL.

Total RRP of games over **£229**

PLUS

★ Megablaster Joystick ★ High Quality Mousepad ★ Dustcover

All for the unbeatable price of **£399.95**

AMIGA "FIRST STEPS" EDUCATION PACK

- ★ Amiga as in standard pack
- ★ A501 0.5Mb upgrade
- ★ Pro-write 2.5
- ★ Deluxe Paint II
- ★ Deluxe Print II
- ★ Infofile
- ★ Music Mouse
- ★ Amiga Logo
- ★ Talking Turtles
- ★ Lets Spell at Home
- ★ BBC Emulator
- ★ Ten CBM disks

All this for just **£529.95**

NEW COMMODORE 64 NIGHTMOVES/MINDBENDERS PACK

Comprises:

- ★ The worlds best selling home computer - the Commodore 64
- ★ C2N cassette unit
- ★ 2 joysticks PLUS:- Nightmoves games
- ★ Nightbreed
- ★ Shadow Warriors
- ★ Midnight Resistance
- ★ Secret Agent Sly Spy
- ★ Mindbenders games
- ★ Trivial Pursuits
- ★ Snare
- ★ Confuzion
- ★ Split Personalities

ALL FOR JUST £149.95
Plus FREE exclusive to Dowling
"Music Studio Software Pack"

Whilst stocks last!

THE NEW 200 SERIES FROM **star** "The best printers just got better!"

LC200 FACT FILE

- ★ Multi-purpose 9-pin, 80 column dot matrix printer with colour
- ★ Black and colour ribbons included as standard
- ★ Electronic dip switches (see LC24-200)
- ★ 180 cps draft elite/45 cps Near Letter Quality
- ★ High speed draft facility 225 cps at 12 cpi
- ★ Swivel selectable push or pull tractor
- ★ Bottom feed
- ★ Advanced paper parking with sheet feeder installed
- ★ Eight resident NLQ fonts: Courier, Sanserif, Orator, Script and italic versions

RRP **£297.85**

OUR
PRICE
£199.95

LC24-200 FACT FILE

- ★ Versatile 24-pin 80 column dot matrix printer
- ★ 200 cps in draft elite/67 cps in Letter Quality mode
- ★ 10 Resident LQ fonts
- ★ A high speed draft facility of 222 cps at 10 cpi
- ★ Swivel selectable push or pull tractor
- ★ Bottom feed
- ★ Advanced paper parking with sheet feeder installed
- ★ The economy of first and last line printing
- ★ 7 K-byte buffer expandable to 39 K-bytes
- ★ 11.7" carriage (A4 in landscape format)
- ★ Multi-part mode for 1 + 4 copies

RRP **£366.85**

OUR
PRICE
£239.95

LC24-200 COLOUR FACT FILE

- ★ Multi-purpose colour version of the 24-pin LC24-200
- ★ Seven colour printing - black, purple, orange, green, pink, blue and yellow
- ★ 30 K-byte buffer expandable to 62 K-bytes
- ★ 10 resident Letter Quality fonts: Sanserif, Times Roman, Courier, Prestige, Script and Italic versions
- ★ Electronic dip switches operable from the push button front control panel (as the LC24-200 mon version)
- ★ Optional font cards including Russian
- ★ Standard black ribbons available for economy purposes

RRP **£424.35**

OUR
PRICE
£279.95

DOWLING

COMPUTERS

UNITS 48-50 TYNE ROAD, SANDY, BEDS, SG19 1SA

PRINTERS

All of our printers come with a free cable and have a full 1 year warranty.

Star LC10 Mono (9-pin)	£157.00
Star LC10 Colour (9-pin)	£205.00
Star LC200 Colour (9-pin)	£230.00
Star LC24-200 Mono (24-pin)	£275.00
Star LC24-200 Colour (24p)	£299.00
Panasonic KXP1124 (24-pin)	£249.00
Panasonic KXP1624 15" (24-pin)	£399.00
Hewlett Packard Deskjet Plus	£459.00
Hewlett Packard Deskjet 500	£499.00
Citizen 124D (24-pin) + s/feed	£225.00
Citizen Swift 24 (24-pin)	£299.00
Canon BJ10E Portable B/Jet	£339.00

RIBBONS

All of our ribbons are GENUINE manufacturer ribbons - NO copies!

1 x LC10 Black Ribbon	£3.50
5 x LC10 Black Ribbons	£16.95
10 x LC10 Black Ribbons	£32.95
1 x LC10 Colour Ribbon	£5.20
5 x LC10 Colour Ribbons	£24.95
10 x LC10 Colour Ribbons	£47.95
1 x LC24/10 Ribbon	£4.75
5 x LC24/10 Ribbons	£22.00
10 x LC24/10 Ribbons	£40.00
Swift 24 Colour Ribbons (each)	£13.95
1 x Panasonic KXP1124 Ribbon	£8.95
5 x Panasonic KXP1124 Ribbons	£39.99
10 x Panasonic KXP1124 Ribbons	£69.99

ATARI LYNX

Lynx Games Machine (with free California Games)	£159.00
---	---------

Blue Lightning	£22.50
Chips Challenge	£22.50
Electrocop	£22.50
Gates of Zendocon	£22.50
Gauntlet III	£25.00
Slime World	£25.00
Klax *NEW*	£27.50

NEW GAMES COMING SOON

Paper Boy	Cyberball
Flying Ace	Zarlor
A.P.B.	Mercenary
3D Barrage	Xenophobe
Road Blasters	Rampage
Super Soccer	Vindicators
Chequered Flag	Turbo Sub
World Cup Soccer	Junk Yard Dog
NFL Superbowl	Miss Pacman

PHONE FOR AVAILABILITY

HP DESKJET

- 120 cps in LG
- 240 cps in Draft
- 75 to 300 dpi
- 100 x A4 sheet feeder
- Optional plug in font cartridges
- Optional Epson FX emulation
- Notator V3 compatible
- Calamus compatible
- Cubase V2 compatible

500

£499

AS USED TO PRINT THIS ADVERT

MICE

Contriver - ST compatible	£18.95
Contriver - Amiga compatible	£19.95
Contriver - PC compatible	£23.50
Contriver Trackball ST	£29.99
Naksha - ST/Amiga/Amstrad PC	£34.99

PC COMPATIBLES

All PC prices include VAT and delivery

Amstrad ALT286 (20Mb HD, 1Mb RAM, 16Mhz)	£1595.00
Amstrad ALT386 (40Mb HD, 1Mb RAM, 16Mhz)	£1995.00
Amstrad PPC512 DD	£579.00
Amstrad PPC512 SD	£419.00
Amstrad PPC640 DD	£679.00
Amstrad PPC640 SD	£539.00
Atari ABC286 VGA COLOUR (60Mb HD, 1Mb RAM, 16Mhz)	£1399.00
Atari PC3 XT EGA COLOUR (30Mb HD, 640K, 8Mhz)	£699.00
Atari PC3 XT EGA MONO (30Mb HD, 640K, 8Mhz)	£599.00

All PC prices include VAT and delivery
All PC computers listed above (except ALT 286 + ALT 386) come with 12 months on site warranty

Ring for further details or prices on any type of PC

PORTFOLIO

Portfolio Pocket PC	£179.95
Parallel Interface + cable	£39.95
32K Memory card	£46.75
64K Memory card	£82.95
128K Memory card	£119.00
Finance Card software	£47.50
PC Application software	£47.50
Utilities Card software	£47.50
Serial RS-232 Interface	£56.95
Super Memory Expander	£164.95
Portfolio Card Drive	£67.50
Mains Power Adaptor	£11.99

ATARI ST ACCESSORIES

SM124 Mono Monitor	£99.99
Megafile 30 Hard Disk	£449.95
Megafile 60 Hard Disk	£619.95
SLM804 Toner Cartridge	£37.50
SLM804 Replacement Drum	£159.99
Roctec 1MB External Drive	£75.00
Forget-Me-Clock II Card	£24.95
ST Monitor Switch Box	£14.95
STE Stereo scart lead	£12.99
STFM standard scart lead	£7.95
Replacement STFM/E PSU	£99.95
Atari CX40 Joystick	£4.95
Joystick/Mouse extension lead	£4.75
Replacement Mouse lead	£3.75
Standard Parallel Lead	£5.95
Mouse Mat	£3.50
2 Midi leads	£6.95
14 Pin Din Plug (ST disk drive)	£2.25
14 Pin Din Socket (ST disk drive)	£2.95
13 Pin Din Plug (ST monitor)	£1.95

ATARI ST SOFTWARE

Sequencer One (ST)	69.95
Dr.T Tiger Cub (ST)	£59.00
C-Lab Notator V3.0	RING
C-Lab Creator V3.0	RING
Steinberg Cubase V2.0	RING
Steinberg Cubeat V1.0	RING
Power Pack software (ST)	£34.99
Hyper Pack software (ST)	£14.95
Discovery Pack software (ST)	£19.95
Turbo Pack Software (ST)	£24.99
Tenstar Pack - 10 games (ST)	
NEW Phone for details	£29.95
Timeworks DTP (ST)	£69.99
First Word Plus (ST)	£56.99

DUST COVERS

Atari STFM/STE computer cover	£6.99
Amiga A500 computer cover	£6.99
Atari SM124 monitor cover	£7.99
Philips 8833 monitor cover	£7.99
Star LC10 printer cover	£6.99

PHILIPS 8833

All of our Philips 8833 colour monitors come with 12 months on-site warranty and are supplied with a cable of your choice:

8833 + STFM cable	£249.00
8833 + STE cable	£249.00
8833 + Amiga cable	£249.00

BLANK DISKS

All of our blank disks are guaranteed and supplied with labels. Our 3.5" Unbranded disks are either KAO or Sony. All Sony Branded disks are boxed and supplied with labels. All disk prices include vat and delivery. Ring for prices on larger quantities.

QUANTITY	10	20	30	50	100
UNBRANDED 3.5" DSDD	5.99	10.99	15.99	25.99	49.00
SONY BRANDED 3.5" 2DD	9.50	18.50	26.50	42.00	80.00
UNBRANDED 3.5" HD	14.95	27.95	39.95	59.99	115.00
SONY BRANDED 3.5" HDD	27.50	53.00	77.00	120.00	235.00
UNBRANDED 5.25" 360K	3.25	6.25	9.25	14.95	27.50
SONY BRANDED 5.25" 2D	7.95	15.50	22.50	36.99	69.99
SONY BRANDED 5.25" HDD	12.99	24.99	34.99	56.99	99.99

AMIGA

AMIGA A500 SCREEN GEMS PACK

A500 cpu, mouse, tv modulator, manuals, Workbench, Dpaint 2 and Days of Thunder, Back/Future II, Nightbreed and Shadow/Beast II £359.00

AMIGA A500 FLIGHT OF FANTASY PACK

A500 computer, mouse, tv modulator, manuals, Workbench, Dpaint 2 and Planet/Robot Monsters, Rainbow Island and F29 Retaliator £359.00

AMIGA A500 BASE PACK

A500 computer, mouse, tv modulator, manuals, Workbench, etc supplied 'bare' with no games software £339.00

AMiGA A1500 PACK *** NEW ***

A1500 1Mb ram computer with 2 x 3.5" drives, mouse 1084S Stereo Colour Monitor, and software: Platinum Works, DPaint 3 Populous, Simm City, Battle Chess, Their Finest Hour and 2 books £1099.00

Astra Pack - 10 games		512K Ram Upgrade with clock	£39.95
NEW Phone for details	£29.95	A590 20Mb Hard Disk drive	£369.95
Photon Paint version 1	£9.95	A590 1Mb Ram Upgrade	£49.00
Photon Paint version 2	£39.95	Roctec external disk drive	£73.00
Deluxe Paint version 3	£59.95	Vidi Amiga video digitiser	£99.99
PACK 1: F29/R.Bow Isl/		Amiga Stereo Scart Lead	£9.99
Robot Monst/DPaint 2	£19.95	Mouse Mat	£3.50

All Amiga prices include VAT and delivery

TELESALES OPEN 10.00am TILL 12.00 MIDNIGHT (MON TO SAT) ALL PRICES INCLUDE VAT AND DELIVERY

ATARI STE + STFM

ALL ATARI STE PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS CARRY A FULL 12 MONTH WARRANTY. ALL MACHINES ARE CHECKED PRIOR TO DESPATCH. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES. WILL YOU EVER WANT TO EXPAND YOUR STE'S RAM? ALL OF OUR ATARI STE COMPUTERS HAVE THE "PLUG-IN" RAM SOCKETS - OUR PRESENT STOCKS DO NOT REQUIRE A SOLDERED IN RAM UPGRADE UNLIKE THE MACHINES OFFERED BY OTHER MAIL ORDER COMPANIES. OUR PRESENT STOCKS ALSO HAVE THE NEW DMA CHIP SET FITTED ALLOWING TROUBLE FREE OPERATION WITH ATARI HARD DISK DRIVES.

STE STANDARD PACK

Consists of the 520STE computer (available in 4 different RAM sizes) with mouse, tv lead and manuals etc
The Standard Packs come with no bundled software.

520STE 512K STANDARD	£349.00
520STE 1MB STANDARD	£375.00
520STE 2MB STANDARD	£419.00
520STE 4MB STANDARD	£529.00

STE TURBO PACK

Consists of STOS Games Creator, First Basic, Hyper Paint II, Music Maker II, 8 great games (Indiana Jones & the Last Crusade, Impossible Mission II, Human Killing Machine, Super Cycle, Outrun, Dragons Breath, Anarchy and Blood Money) and a joystick

520STE 512K TURBO	£369.00
520STE 1MB TURBO	£389.00
520STE 2MB TURBO	£439.00
520STE 4MB TURBO	£549.00

STE DISCOVERY PACK

Consists of 7 great software titles (First Basic programming language, NeoChrome art package, STOS games designer and 4 games - Carrier Command, Space Harrier, Outrun, Bomb Jack) and the complete ST Tour book and a joystick.

520STE 512K DISCOVERY	£365.00
520STE 1MB DISCOVERY	£395.00
520STE 2MB DISCOVERY	£439.00
520STE 4MB DISCOVERY	£555.00

STE RAM KITS

DIY 1 KIT - 520STE to 1MB (2 x 256K cards) SIMMS	£34.99
DIY 2 KIT - 520/1040 to 2MB (2 x 1MB cards) SIMMS	£109.00
DIY 4 KIT - 520/1040 to 4MB (4 x 1MB cards) SIMMS	£205.00

All RAM prices include VAT and delivery and come with instructions.
PLEASE CHECK YOUR STE CONFIGURATION BEFORE ORDERING SOME STE MACHINES SUPPLIED BY OTHER COMPANIES REQUIRE SOLDERING!

STE BUSINESS PACK

Consists of K-WORD 2 word processor, K-SPREAD spreadsheet, K-DATA database and METACOMCO BASIC programming language. Who needs the 1040STE pack?

520STE 512K BUSINESS	£385.00
520STE 1MB BUSINESS	£405.00
520STE 2MB BUSINESS	£459.00
520STE 4MB BUSINESS	£565.00

STE POWER PACK

Consists of 20 great software titles (Afterburner, R-Type, Gauntlet 2, Super Hang On, Space Harrier, Star Glider, Overlander, Super Huey, Pac Mania, Nebulus, Eliminator, Predator, Xenon, Bombuzal, Bomb Jack, Double Dragon, Black Lamp, Out Run, Star Goose and Star Ray) and a joystick.

520STE 512K POWER	£389.00
520STE 1MB POWER	£409.00
520STE 2MB POWER	£459.00
520STE 4MB POWER	£569.00

REMEMBER WE ONLY SELL THE ATARI STE WITH PLUG IN RAM SOCKETS OTHER COMPANIES MAY OFFER MACHINES WITH SOLDERED IN RAM BOARDS. SO RING US FIRST WE CAN HELP YOU

ATARI STFM POWER PACK

★ Atari 520STFM computer

★ 20 top selling games (Afterburner, R-Type, Gauntlet 2, Super Hang On, Space Harrier, Star Glider, Overlander, Super Huey, Pac Mania, Nebulus, Eliminator, Predator, Xenon, Bombuzal, Bomb Jack, Double Dragon, Black Lamp, Out Run, Star Goose and Star Ray)

★ Mouse, Joystick and instructions
ALL THIS FOR ONLY

£299.00

520STFM DISCOVERY PACK - £ 279.00
520STFM BUSINESS PACK - £ 310.00
520STFM STANDARD PACK - £ 265.00
for software contents - see STE section above.

ST GAMES ONLY £1.75 EACH ?

Afterburner, R-Type, Gauntlet 2, Super Hang-On, Space Harrier, Star Glider, Overlander, Super Huey, Pac Mania, Nebulus, Eliminator, Predator, Xenon, Bombuzal, Bomb Jack, Double Dragon, Black Lamp, Out Run, Star Goose and Star Ray.

All of the above games are available in the Power Pack Software pack for only

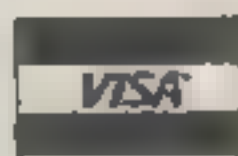
£34.99

(that's less than £1.75 each!)

(requires double-sided internal disk drive)

BEST PRICES MAIL ORDER

(DEPT NCE), UNIT A, GRAFTON PLACE,
WORTHING, WEST SUSSEX. BN11 1QX



(0903) 700714

TELESALES 10am till 12 midnight



All prices include VAT and UK delivery unless otherwise stated. All prices / specifications / special offers are subject to change without notice. Goods usually despatched same day as cleared payment is received. Please make cheques/P.O.s out to BEST PRICES. Mail order only. No callers. Thank You.
ADD £3.00 INC VAT FOR NEXT WORKING DAY UK DELIVERY, ADD £25.00 INC VAT FOR SATURDAY UK DELIVERY

TELESALES OPEN 10.00am TILL 12.00 MIDNIGHT (MON TO SAT) ALL PRICES INCLUDE VAT AND DELIVERY

TELESALES OPEN 10.00am TILL 12.00 MIDNIGHT (MON TO SAT) ALL PRICES INCLUDE VAT AND DELIVERY

Now I'm glad you asked me that. Sue (otherwise this week's column would be a bit short). Budgie UK is a kind of software shareware group, originally founded, I believe, back in 1987 by a couple of enthusiasts named Camy Maertens and Simon Rush. The whole thing is based on the novel idea of licenceware - in other words no library is permitted to stock Budgie titles without a licence, and for each title stocked a royalty is paid to the authors.

Now there are almost 30 programmers in the Budgie team, and in all over 80 releases have been notched up - indeed, it claims to be the world's largest programmers' group of PD/licenceware. And, as if to underline this, the 100th title is expected some time in the new year.

You might think, with such an excellent reputation and high sales, that Budgie is a big money spinner and all

concerned are millionaires. In fact they're not. Apparently, each quarter the Budgie authors collect a total of just £600 from the 32 licensed PD libraries - this is really not a lot, when you think about it. These royalties are then divided equally among all the respective authors, with one share per title written, to maintain the touching democratic spirit of the enterprise.

Finally, Budgie boss Camy Maertens has written to me recently to complain about a 'serious omission' in virtually all reviews of Budgie titles. "It is a matter of courtesy to acknowledge his existence," Camy writes, wondering why the author rarely gets his due credit.

Fair point, although I really have to admit that I've rarely seen any review of, whether of PD or of commercial software, that actually mentions the name of the programmer, so Budgie are hardly being singled out.

A DISGRUNTLED ST OWNER WRITES

And finally, Peter Mead of Wallington in Surrey writes to express his disbelief at the revelation in this column recently that Atari has changed the method of upgrading the STE's RAM - removing the sockets that allow a simple upgrade by plugging in the SIMM modules the old STE had.

"This is very shortsighted of Atari," Peter goes on, "since this was one of the benefits of the STE that the company pushed when it was first launched."

Peter also goes on to speculate that Atari's reason for doing so can only be one of naked profit, since anyone wanting a 4Mb machine would have to buy a Mega 4, rather than buying a 520STE and four 1Mb SIMMS and fitting them him or herself.

Atari so far has not commented at all on its reasons for changing the

internal hardware of the STE. But I would not be at all surprised if Peter were right.

NEODESK IN THE CLEAR

Finally, a couple of weeks ago in this very column I was praising the wonderful Neodesk 3, (the ST Desktop replacement in case you didn't know), but complained that I had been unable to get it to work with Protext v5. Well now I'm glad to say that I've solved the problem.

I therefore wish to recommend Neodesk 3 unreservedly. It costs £39.95, and believe me it's worth every penny.

Call Electric Distribution for your copy on 0480 496666. (Incidentally, if you find Neodesk appears unhappy with any program you run, call Electric's excellent help-line - details will be revealed to you when you buy.)

Steve Carey

Macintosh

THE DISCLAIMER

Neither the author (me), nor Future Publishing, is in any way responsible for any damage which may occur to you, your Mac, your files or the world's ecology if you follow any of the suggestions below. You should always work on copies of applications, never originals. Make sure that you have backups of your System and Finder before you attempt to do anything to them. Oh, and devout prayer helps, too.

ON WITH THE SHOW

This week, we'll be looking at some of the customisation that you can do to your Macintosh. This bit may be boring, but it helps to know it. So don't skip ahead, read carefully.

Every Macintosh application consists of two distinct parts (known in Mac parlance as 'forks'): the data fork and the resource fork. The data fork contains... (go on, have a guess). It's the resource fork that we're interested in. This contains all the messages, window shapes, menus and so on that the program will use. The benefit of this to us is that it means that things like icons, menu entries and warning dialogs are readily accessible. All that we need is something called... (fanfare) ResEdit. This is a program developed by Apple to allow programmers to

create resources for their programs - but it's usable just as easily by us. You should be able to get it from any reasonable PD library, bulletin board or Mac fanatic; the latest version is 1.3, which you should use if at all possible.

MENU MASTERS

Okay. A lot of the fun in using the Macintosh is the exploration, so I don't intend to tell you how to do everything. But ResEdit is easy to use once you get the hang of it, and you can't do any permanent damage if you only work on copies of your files. So, with that in mind, I'll tell you how to do a couple of things, and let you experiment with the rest.

First, start your Macintosh up under the Finder, and not under MultiFinder. That's because we will be changing the Finder file, and you can't do that with MultiFinder. (Remember, make a backup copy of the Finder, just in case...)

Now, launch ResEdit by double-clicking. You will see a window appear with the contents of the top level directory of your hard disk displayed in it (if you've any other disks inserted into the floppy drives, windows will appear with their contents, too). Double-click on the System Folder and then, when the contents appear, find and double-click on 'Finder'. This will open up a

window containing lots of four-letter abbreviations: these are the resource names. Find the one called 'MENU' and double-click on it. Lots of entries will appear in yet another window; these are entries for the individual menus that you normally see on the desktop. Double-clicking on any of these will bring up a display of how the menu looks, and altering any of the information will permanently change how the menu appears when you exit the program. So, for instance, if you find the 'Special' menu (just try each of the entries until you find the right one) and change 'Shut down' to 'Beddy Byes', then that's what the menu item will appear as in the future. Try changing one or two of the entries (if you've got a colour Mac, try altering the colour of the entries, too) and then click on the 'close' boxes of the windows until you get a message asking if you want to save the changes that you have made. This is your final 'bail out'; if you select 'No' then nothing that you have done will be kept. If, on the other hand, you chose 'Yes', then...

Assuming that you had the confidence to save your changes, Quit ResEdit and the program will return you to the desktop. Now you can look at the pull-down menus and see how your changes look. Remember that if you don't like the look of any menu items - perhaps they're too long, or too boring - you can just repeat the procedure above and alter them again. And if you want to return to the standard menus - well, you did keep a copy of the Finder, didn't you?

ICONS AND THINGS

Menus are just some of the things that ResEdit allows you to alter. Among the others are icons and dialog box messages. ResEdit allows you to open any application and change things around; just remember that you should always work on copies - never on originals. Experiment with the program - it's one of the most powerful tools available. The worst that you can do is trash an application so it won't work.

The resources that you're looking for are things like DITL and DLOG (which describe how windows and dialog boxes look, and the messages which are displayed when the dialog boxes appear), STR#, which are lists of strings for things like the 'About' information, and ICON and ICN#, which are icons for the program and any documents that it creates. To edit icons, just double click on them until

they appear as large versions of themselves. Then clicking on a white space will turn it black, and vice versa.

QUESTION TIME

Don't despair if some (or all) of the above seemed unclear on the first read; playing with ResEdit for a while should clarify things. If you've any questions, or are not sure how to change something, just drop me a line c/o Express, and I'll see if I can help.

POSTCARD FROM AMERICA

Having caused your brains to explode, let's finish on a lighter note. Once again, David Morgenstern looks at the lighter side of American Mac-life.

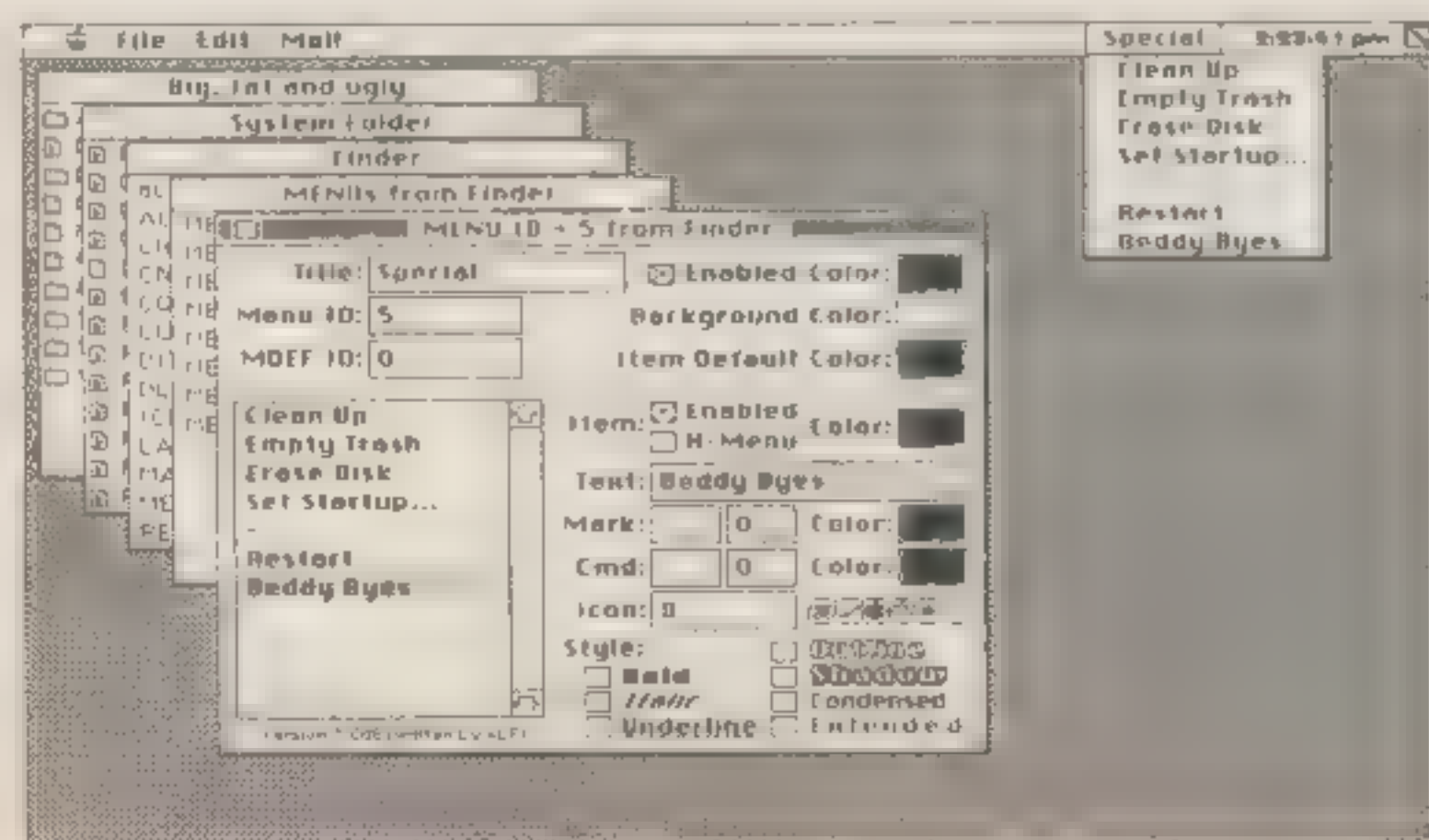
"Security is not what it once was at product introduction love-fests. It used to be that gatecrashing a new computer rollout was like sneaking into a private briefing for heads of state. Nowadays almost anyone can waltz through the front door.

"The only known crasher of the 1988 NeXT introduction was a member of the Berkeley Macintosh Users Group (BMUG). The need to see St Steve's black box was so great he dressed up as a waiter, and walked in with the caterers carrying a tray of food. After a quick change of ties - a nerd was born.

"The most recent NeXT debut's door was so loose that an elderly couple of Swedish tourists strolled into the hall. After the explanation of the event, the wife translated for her husband, they looked at each other with a weary 'why-are-computers-in-the-Symphony-Hall' expression, and then walked out without another word. Among the supposedly exclusive software developer dignitaries, and desktop bigwigs, at the new Macintosh debut was an infamous hacker, Harvey, who is known for his ability to find a heavy-duty bug in one mouse-click. He can glance at a program and instantly bring it crashing down hard to the silicon canvas. Harvey's name-tag claimed he was a 'Rocket Scientist'. Fortunately, there was no report that any of the new Mac models on display wound up as ground zero to his digital missiles.

"Contrary to certain press reports, the Mac II'si does not stand for 'simply irresistible.' Rather, it means 'slim integrated' for the slim design, and integrated video circuitry. This information came straight from a presenter's mouth - for what that's worth."

Ian Wrigley



• Editing menus is a simple task in ResEdit.

The Trader Systems



286-12MGHTZ
1 MEG MEMORY
40 MEG (28MS)
SUPER VGA COLOUR

£895

386-25MGHTZ
32K CACHE
4 MEGABYTE MEMORY
40 MEG (28MS) DRIVE
SUPER VGA COLOUR

£1595

386-33MGHTZ
32K CACHE
4 MEGABYTE MEMORY
110 MEG (19MS) DRIVE
SUPER VGA COLOUR

£1995

ALL SYSTEMS
CARRY A FULL
TWELVE MONTH
WARRANTY

PRICES SUBJECT TO VAT AND DELIVERY CHARGES

TRADERDESK
THE CLENT UNIT
BARNSELY HALL DRIVE
BROMSGROVE B61 0ED
HEREFORD & WORCESTER
TELEPHONE 0527 579120 (6 LINES)

BLACKMORE ELECTRONICS SAY BUILD IT YOURSELF

MOTHERBOARDS

XT TURBO 12 MHz V20, small size
takes 256k x 4 DIL £62.10
AT TURBO 12MHz baby size up to 4M
on board £158.00
AT TURBO 16MHz version £205.00
AT TURBO with EMS 12MHz, up to 5Mb
on board £188.00
386SX ALL-IN-ONE 16MHz includes floppy,
serial and parallel ports. Takes 1M x 1 £399.00
Memory is available for all these boards.
Please call for current prices

DISK CONTROLLERS

Universal floppy
Drives 360/1 2/720/1.44 drive
suitable for
AT and 386 systems £24.50
XT Hard/floppy controller £81.00
XT Hard disk controller £65.00
AT floppy/Hard controller £107.00

DISPLAY ADAPTERS

Hercules plus printer £39.20
Dual CGA/HERC £38.00
EGA PLUS £99.50
VGA 8 bit £99.00
Universal VGA 8/16 bit.
VGA, EGA, CGA, MDA, Hercules
Standard plus 800 x 600 plus
1024 x 768 resolution £137.00

I/O ADAPTORS

Serial RS232 £16.10
DUAL RS232 £24.10
Serial/parallel game com 1,2,3,4
PAR 2, 3 links £14.50
Dual serial + par + Game £25.00
XT SER/PAR/CLOCK/
FLOPPY/GAME £31.50

KEYBOARDS

101 key XT/AT switchable £46.00
101 CHERRY XT/AT £65.00

CASES AND PSUS

XT/AT Three 5.25" and one 3.5" slots
for disks, flip top lid £44.50
Suitable 150W PSU £43.70
DE-LUXE with speed display £65.00
Suitable 200W PSU £69.00
MINI TOWER with speed display £72.50
Suitable 200W PSU
£69.00

MONITORS

MONO 12" green £73.00
VGA 14" paper white £165.60
VGA 14" colour £296.70
REMEMBER!! all our prices include
VAT. Call for free catalogue.
Delivery £3.00 (under £40)
£9.00 (over £40)

FLOPPY DRIVES

5.25" 360k £66.70 5.25" 1.2M £80.50
3.5" 720k £71.76 3.5" 1.44M £85.56
5.25" cradle for 3.5" drive with
adapter cables £12.50

SKELETON SYSTEMS

These consist of motherboard, case
and PSU. You add the rest!
XT 12MHz £155 AT 12MHz £250
AT 16MHz £305

**BLACKMORE
ELECTRONICS
LIMITED**

CONTACT US NOW

**PC - DIY
BOOK**

ONLY £7.95
No VAT or P & P

Not sure how to build your own PC?
Then this is for you!
112 Pages of practical tips.

CHRISTMAS SPECIALS

OFFER 1:

Double Sided 3 1/2" Disks, Individually Wrapped, 880k
135 tpi, ideal for Amiga, ST, etc. Blue, Pin No., made in
Japan, 100% Error Free. 2 for 1 Warranty or money
back.

10 x 3.5"	£4.90
25 x 3.5"	£11.95
50 x 3.5"	£18.50
100 x 3.5"	£36.00
250 x 3.5"	£87.50
500 x 3.5"	£169.00
1,000 x 3.5"	£310.00
Inc. labels	

Amiga 512K

Upgrade from

£4.95 to £11.95

OFFER 2:

Genuine Sony 3.5" Disks Double Sided,
made in Japan, sold in Sony outlets,
probably the best disk in the World!

10 x 3.5"	£5.90
25 x 3.5"	£14.35
50 x 3.5"	£26.48
100 x 3.5"	£49.78
250 x 3.5"	£123.95
500 x 3.5"	£199.50
1,000 x 3.5"	£369.00

Including labels

1440K

DISK FROM

31P to 1440K

OFFER 3:

5.25" Double Sided 48/96 tpi for IBM PC and
Clones, etc, 100% Error Free, 2 for 1 warranty or
money back.

25 x 5.25"	£6.95
50 x 5.25"	£14.95
100 x 5.25"	£23.00
250 x 5.25"	£56.95
500 x 5.25"	£112.95
1,000 x 5.25"	£200.00

Complete with labels, envelopes & w.p.'s

Amiga 512K

Upgrade from

£14.95 to £23.00

OFFER 4: High Density Disks.

when only the Very Best will do.

5.25" HD 1.6mb

for IBM, AT, Etc.

3.5" D/SHD 2mb.

made in Japan,

HD corner of Disk

10 x 5.25" HD	£4.60	10 x 3.5" HD	£11.00
25 x 5.25" HD	£11.00	25 x 3.5" HD	£27.25
50 x 5.25" HD	£21.50	50 x 3.5" HD	£40.00
100 x 5.25" HD	£42.00	100 x 3.5" HD	£79.00
250 x 5.25" HD	£100.00	250 x 3.5" HD	£169.50
500 x 5.25" HD	£197.00	500 x 3.5" HD	£356.00

Including Labels, Envelopes & w.p.'s
100% Error Free. 2 for 1 Warranty

OFFER 5: 'Keep your data safe'

Top Quality Anti Static Lockable Disk Boxes,
complete with 2 keys, Small or Large
Capacity, ideal for Home or Office use!

3.5" x 40 Capacity	£3.95
3.5" x 80 Capacity	£4.50
3.5" x 100 Capacity	£5.50
3.5" x 120 Capacity	£6.50
5.25" x 70 Capacity	£3.95
5.25" x 100 Capacity	£4.95

OFFER 6: Accessories;

Sourced from the world's leading
manufacturers, Quality and Price
Guaranteed. Buy with Confidence

Amiga/ST dust covers	£1.95
Universal Screen Filter	£14.95
3.5" or 5.25" Cleaning Kit	£1.95
Mousemat	£1.95
200 Labels	£2.99
Roll of 1,000 Labels	£7.50
PC or Amiga Cable	£5.95
Mouse House/Bracket	£2.40
Printer Stand with Tray	£13.99
Printer Stand	£11.95
Mouse/Joystick Extension	£3.95

Call for printer ribbons prices

Four good reasons for choosing Original Media as your Supplier: Post add £3.50 per order

1 No Minimum Order

2 Access and Visa accepted

3 Next Day Delivery if order placed before 12.00pm

4 Free Helpful Advice



CORPORATE
EDUCATION &
TRADE ENQUIRIES
WELCOME

THE ORIGINAL
MEDIA

COMPANY LTD

TEL: (0530) 813591
Fax: 0530 813595

Dept NCE
4 ASHBY RD
COALVILLE
LEICESTER
LE11 1BT

DUE TO EXPANSION AUDIOGENIC ARE LOOKING FOR

CUSTOMER SERVICES ASSISTANT

Responsibilities include dealing with customer queries over the phone or by post, processing and despatching orders from members of the public or from distributors, handling returns, and general office duties.

Although this is a junior post it does require considerable abilities, and knowledge of several home computers is also essential.

GAMES TESTER

An experienced tester is required to assist with the many exciting products scheduled for release in 1991 and beyond. There could be opportunities for the right person to become involved in project management at a later stage.

PROJECT MANAGER

A highly experienced project manager is required. You should have an interest in Audiogenic-style games - shoot'em'up addicts should think twice before applying.

Excellent salaries and prospects for the right persons. All these positions will be based at our new office/warehouse complex in Wealdstone, North West London. Smoking is not permitted on company premises at any time.

If you are seriously interested in any of these positions contact Peter Calver, Managing Director, on 081-424 2244, or write to:

Audiogenic Software Limited

Unit 27, Christchurch Industrial Centre
Forward Drive, Wealdstone, HARROW, HA3 8NT

AUDIOGENIC IS AN EQUAL OPPORTUNITY EMPLOYER

ENIGMA VARIATIONS

We require quality 8 bit programmers for the following projects.

CBM 64 programmer

for Commodore Console game.

CBM 64 programmer

for Adventure system.

Z80 programmers

for conversions of major licensed games.

Plus we need a **GRAPHIC ARTIST** with both 8 and 16 bit experience to work in our offices.

If you think you are one of the people we are looking for contact Richard or Mark on 0423 501595

ENIGMA VARIATIONS LTD

**13 North Park Rd
Harrogate HG1 5PD**



"BAAL" - ST Format Gold 91% - ST User Star Game

"BLOOD MONEY" - ST Format Gold 90% - NCE 5 star game

"ANARCHY" - C&VG Hit! 96%

WJS Design are an experienced software house specialising in the very best 16 bit software. Having worked exclusively for PSYGNOSIS for over 2 years, we are now expanding and will shortly be requiring the following people to join our in house team:

68000 PROGRAMMERS (ST/ AMIGA/ MEGADRIVE) GRAPHIC ARTIST

The successful applicants will be self-motivated, take pride in their work, non-smoking and possess a sense of humour! In return we can offer a competitive salary, top development systems and a relaxed working environment. We even give you FREE COFFEE, now we can't say fairer than that can we?

If YOU think you've got what it takes (and you like coffee), telephone:

WAYNE SMITHSON on 0532 636554

or write:

WJS DESIGN, PARK MILL HOUSE, STANNINGLEY ROAD, LEEDS, LS12 3LR.

The **BITMAP BROTHERS** **COMPUTER GRAPHIC ARTIST**

We are currently seeking a computer graphic artist to work on a project due for release in 1991 through the RENEGADE label.

We offer an excellent remuneration package for top people, the best equipment, a creative management approach and the chance to see your products at the forefront of world markets.

The successful applicant will be able to demonstrate their talents on any or all of the following formats:

Commodore Amiga, Atari ST and IBM

Phone Steve Kelly on 071-702 3643/4

Or write to
THE BITMAP BROTHERS
C1L, Metropolitan Wharf
Wapping Wall, London E1 9SS

Assistant Manager with prospects wanted to join a young and growing company, preferably mid 20's upwards.

Must feel at ease in dealing with people and confident in their ability in handling the day to day running of a busy but friendly office.

The applicant must have a good knowledge of the Atari ST.

Please write, enclosing CV, to:
**The Financial Controller,
CMV Computers Ltd.,
117 Regent Street,
London. W1R 7HA**

NINTENDO

AND

OTHER

DEVELOPMENT

OPPORTUNITIES

We are expanding once again and have opportunities for senior and junior programmers, artists, musicians, designers and product testers.

We create leading edge flight simulators, arcade and strategy games on the latest technology; from personal computers to video game systems including Nintendo, Commodore, IBM and Atari.

If you are self-motivated, hard working and would like to join one of the UK's best known development companies, then give us a call to arrange an informal chat or send us full details about you and what you can do.

Argonaut Software ... Where the future is flying high.

Call Richard or Jez on 081 906 4253 or Fax: 081 959 5052

ARGONAUT SOFTWARE LIMITED

66b The Broadway Mill Hill London NW7 3TF

★ Member of the Society of Software Authors ★

Official developer with Nintendo of America
and Nintendo Co Ltd (Japan)

Citizen
SOFTWARE



PAL
Developments

COMPUTER PROGRAMMERS Z80/6502/68000 /PC

Salary Circa £10K+ Sheffield based

PAL Developments has vacancies for experienced programmers to work on a variety of computer game based projects. Many of these are for our highly successful sister company Hi Tec Software and include internationally famous cartoon characters.

An excellent working environment alongside an already established dedicated team of programmers. Programmers should have experience of working with either Z80/6502/68000 /PC.

Salary is negotiable and will reflect the importance of this position.

Only apply if you have a proven track record in games programming.

In the first instance apply, preferably in writing, to Mr. A.D. Palmer at the address below, or telephone for an appointment.



4/5 Barmouth Court

Barmouth Road,

Sheffield S7 2DH

Tel: 0742 587555 Fax: 0742 580547

PALMER ACOUSTICS LTD

10 YEARS 1977-1987



**FUTURE
FAX**

TOP CAT

**Yogi's
GREAT ESCAPE**

**Cricket
Captain**

© 1990 HANNA-BARBERA PRODUCTIONS INC.

THE CODE MONKEYS PRIMATE PROGRAMMERS

Successful applicants will get to use a new innovation in software development, a ZX81 based system lovingly entitled B*LL*Xtm, to produce the world's most exciting games for consoles and 16-bit systems. They will be working alongside some of the industries biggest b*st*rds and will be paid in large quantities of bananas and monkey nuts.

**CALL 0532 710996
NOW**

And get to work in the U.K.'s most prestigious stinking dump!

**THE CODE MONKEYS,
WE'VE GOT SH*T FOR BRAINS!**

A STORM GATHERING

The Sales Curve Ltd. continues to strengthen and diversify its operations as 1991 approaches.

The launch of our own label: STORM and our on-going expansion mean that we are now looking to increase our development capacity.

If you are a programmer/artist on any of the following formats: Atari ST, Amiga, Commodore 64, Spectrum and Amstrad, we want to talk to you.

We're also interested in people who are willing to work on the SEGA, NES and Superfamicom machines.

We're primarily interested in in-house programmers, but for exceptionally talented and experienced people will consider freelancers and third party teams.

For further information contact Rob Henderson at:

**THE SALES CURVE
LOMBARD BUSINESS CENTRE
50 LOMBARD ROAD
LONDON, SW11 3SU
Telephone: 071-585 3308**

We offer an excellent salary and bonus scheme - plus the prospect of working for a company that's rapidly becoming a major contender in the Software Entertainment Industry.

OPENING TIME

Startling news reaches us from our transatlantic cousins. Darling Timothy has gone missing in the Louisiana swamps after a long and fruitless search for the original Southern Comfort bourbon still. It's believed he was led astray by the Cajun chefs who were supposed to be looking after him and he hallucinated after over-imbibing at a Giant Hog Roast. Apparently he was convinced he was possessed by the spirit of Jack Daniel's and fled into the wilderness screaming something about catching the last train to Clarksville. Since then there's been no trace of the chap.

In his absence I've agreed to guide you through another stunning episode in the Great Centrefold Saga. And who am I? I am none other than Hector Mandelbrot (pronounced Mandela-bro), English cousin of the man who invented nature and the funny-looking snowy lines you get between TV channels.

In fact, cousin Beno has me to thank for his original discovery. Had it not been for my impromptu upending of a cup of cafe-creme into his sock drawer, I don't think he'd have ever become obsessed with Brownian motion. After admonishing me for my clumsiness he started ranting about self-perpetuating stains and how he'd never shift them. It took him three Macs and a MiniTel system to deconstruct the stain algorithm before coming up with his five minute Fractal House pop video.

Anticipating worldwide acclaim, he was to screen the said video at the Institute of Virtual Realities and Trippy Graphics in New York. Sadly, he never took off, thanks to a butterfly in South Africa that flapped its wings at the same moment as my dear relation stepped up to the podium. The hurricane that swept through the building injured several VIPs and covered Rhode Island in Cantor dust and I think poor Beno felt responsible. Apparently he's given up the whole fractal thing now and is working on a way to prove that gravity is a marketing trick used by Atari to make small, fiddly Portfolios seem a good idea.

But for now we must leave poor Tim and Benny to fend for themselves. This way the rest of the Centrefold

Tim Smith's

CENTREFOLD

Write to 30 Monmouth Street, Bath BA1 2BW (if you dare)

Letter Spray

Want to see your name in print? Then write to Centrefold, this week's special by Hector Mandelbrot.

The interactive part of Centrefold, where you get to send in your witty, computer-related views, and we get to mercilessly rip them apart. No, no. I mean we get to discuss them, in full, like rational adults, over a cup of tea and a bun, maybe.

Dear crypto-facist (sic),

I would like to alledge (sic) that the so-called "Eighteen Legged PC-Compatible Goat" in issue 57 did in fact only have 17.3 legs and was only 73.472% compatible. Come on NCE! This kind of lily-livered leftie stacking isn't good enough! I think our one time technician, confidant and general great bloke Roger Kirkby had it right when he said "P*ss off, I'm 'avin me lunch!" I would also like to point out that the "Teenage Mutant Moron Mumbler" should have their legs ripped off with a rubber truncheon.

Yours, Brian Sivyour (Ron)

Firstly, Brian, I am not a crypto-facist. I have never had anything against faces and I've never made any secret of the fact. Secondly, the user-selectable 0.7 legs on the PC Goat invariably confused the less-able owners, but they were there, believe me. And finally, with regard to your suggestion for removing Mumbler legs, I don't think they'd fit the Goat. You'd be better off trying with Roger Kirkby's. Please wait where you are, don't move and don't be afraid of the white-coated men that I'm just sending round now.

Hier Smith, (Eh? Today Smith! I think you mean "Herr").

I would much prefer (sic) it if Centrefold didn't come complete with a wrap-around copy of NCE. Think of the environment, all those trees being chopped. I also think the picture you printed of the two naked women was a poor attempt to get readers writing. The least you could have done was put it in colour (letter degenerates into torrent of filth, self-abuse and auto-eroticism).
Pauric O'Callaghan

Fear not for the trees, Pauric, for they are not endangered by NCE. As it's a radical and hip mag, everything is recycled; the stories, the jokes, the adverts and even the paper. In fact the paper is a combination of highly-compressed naval fluff and thrice-threshed lavatory paper. It's even biodegradable (with a half life of 17,000 years) and can be used in light fires. With regard to the photo, you're wrong. It was an attempt to get readers writing poorly and your retrograde illiteracy proves it worked!

Tim (notice the absence of 'dear' in order not to offend your delicate sensibilities)

In the beginning there was IBM and it looked upon its work and saw that it was good. (Oh god, I know how this is going to turn out). And IBM

said unto the programmers "Hearken unto me, all ye systems analysts and program designers, for I have created the PC and from this day forth it shall be Standard - with an 8088 or 8086 CPU and 640K RAM" (I was right!).

And thus IBM laid down the one great commandment to programmers: "Let everything be compatible." And it was so, until a new force arose and the 80286 and 80386 processors came to pass. And all those who programmed rejoiced in the new chips. (So? Get on with it!)

But IBM grew wrathful and gathered the multitudes and declared "All ye unfaithful denizens of the computer world - Do ye not remember the first Great Commandment? Let all that can run on a 386 CPU also be able to run on 8086 and 8088 processors. Cast thine eyes on Windows, Windows 286 and Windows 386. Do ye not see that they are three different programs? (Yeah? Who cares?)

But this time the programmers did not acquiesce. One among the many arose and turned to his brethren and said "Yea, but hearken unto me, brethren, for downward compatibility sucks. Should we not use these gifts that Intel has given us and exploit them to their full capability?" And for this oration the blasphemous obtained a round of applause. (I really don't know how much more of this I can take. How about you?)

But IBM, seeing that its dream was shattered, waxed wrathful but did not prevail. And the lesser beings with 8086 and 8088 CPUs crept away and were never seen again. Amen.
Yours sincerely, Daire Quinlan

Erm, yes. There's not a lot to add really, is there? You have successfully carried out your own self-character assassination. Do you have many friends? Please don't ever, ever write to me or any other public organ again or I shall call the police. I've had a guff of letters for today so that's it. Sod off and read something else.

THE TOSH TEN

This week we bring you ten uses for that poor old Sinclair ZX Spectrum that's been gathering dust at the bottom of your wardrobe for five years.

- 1) Pretend it's really a Portfolio by carrying it around everywhere and forgetting to use it.
- 2) Peel off the rubber key-mat and re-sole your shoes
- 3) Use it to form-feed the thermal printer you've installed in the bathroom as a toilet roll holder.
- 4) Tie it to a broom-handle and use it as a spade.
- 5) Nail it to the wall outside your house to confuse salesmen who'll think it's a door-entry intercom.
- 6) Write a rude message on the back, bung a stamp on the front and post it to Mr Q. Wertyulop.
- 7) Use it as a tea-tray (In large families, use it as a combined drinks coaster and peanut holder).
- 8) Cause chaos on a Saturday morning by attempting to insert it in the cash-point machine.
- 9) Tape it to a ruler and use it as a back-massager.
- 10) Tear out the innards, bung them into a box and try to sell the thing as Russia (maybe this one's a bit too silly).

CAPTION FULL STRENGTH

Has this man flipped his lid? Does he have something against monitors or computers in general? Is he just trying to avoid possible conscription by a demonstration of his inability to select appropriate targets? You tell us.

Send your witty, original and trouser-wettingly funny captions to: "Think it over, creep - I have a wild mouse in my pocket" compo



TREFOLD

DESPATCHES

Every week, Despatches bring you news from around the world, written by the world's greatest roving reporters. This week we bring the final communique from Sir Tim of Smith, now hopelessly lost during his trans-American expedition.

Dear Herbert (or is it Hector?).

I hope things are going well with the Centrefold. I'm a bit worried about Tarquin's over-zealousness with the quill and I still wake up in a cold sweat thinking about you and your incredible propeller-headed outlook on life. Why, oh why, didn't I get Jonafon Woss or Ben Elton? Anyway, what's done is done - on with the news.

Day One: Arrived in NY and was instantly set upon by a bunch of Baltimore hoodlums with magnets who've managed to trash the diary section on my portable PC. I now have no idea what I'm supposed to be doing here. Met with Joe Sixpack (my guide, and our man Stateside). Trekked back to the hotel and got fairly blitzed during a long discussion on the principles of bio-computers. Had a spot of bother with the hotel detective who caught me wandering round the corridors in my Stars and Stripes boxer shorts. I think I might be in trouble.

Day Two: Sixpack and I missed the power-breakfast with Steve Wozniak, thanks to a night in the NYPD's cells to dry out. No charges pressed, as they thought I was merely a "harmless Limey eccentric". Instead we went for a quick jaunt



across country to Kentucky. We commandeered an old ex-army charabanc by showing the hippy driver a printout of the presidential seal we'd screen-grabbed from an anti-drugs arcade game. He believed our "we're off to thrash Saddam, sonny, and you can help" story and even gave us some Peyote cactus buttons which had "helped him in 'Nam."

Day Three: Reached Kentucky just in time to see the Jim Beam distillery close for the night. Sixpack wept openly at the prospect of an entire evening without intoxication, so after much consideration we've decided to pop the Peyote to help us through.

Day Err..Five? Hell knows! Everything is so blue. And big! Sixpack has gone now and left his purple grizzly bear to keep me company. America is really, really big! Even the ants are big. I think I'm losing my mind. Wow! Sixpack's bear has gone now, and there's just a big void left in its place. No. Wait. Something's forming out of thin air. It's black and white and it's got flashing blue and red things on its head. I think it could be Blue Meanie! Ahh! Glove? Where are you? I'm going to be sick.

Day Something: Managed to avoid capture by the local feds by grabbing the tarpaulin of a passing garbage truck. Woke up this morning in Louisiana, covered in fish-heads and old copies of *Pop Comp Weekly*. Fell off the truck during a particularly nasty dizzy spell and came to rest on the doorstep of the LaFayette family home. These odd, pidgin-French speaking folk have invited me to stay until I get better. I still don't feel quite with it and I keep thinking I've got to meet Sixpack somewhere in Tennessee. I think we're supposed to be visiting the computerised bottling plant at the Jack Daniel's factory, but I can't tell without my diary. I'll think about it later. There seems to be some kind of barbecue party going on outside and I don't want to miss it...

THE CHARTS

This week we have the fav games of Benoit B. Mandelbrot, Fractal genius and cousin to your humble scribe. Take it away Ben...

- 1) *Chaos Strikes Back* (zis ees ma favourite, as eet explains ze equation x maps to $\lambda x(1-x)$)
- 2) *Powder Drift* (I like ze way ze cars tend to infinity after a glass or deux of Chateau Fatou)
- 3) *Trip-A-Tron* (zis, I like a lot, even eet eet's over-scientific. Ah luv ze colours, homme)
- 4) *Dragons Breath* (zis ees, a reference to ma self-squaring Peano Dragon, which molts a lot)
- 5) *Corruption* (I get zis all ze time when I use ma PC in ze Magnetron at ze Unversite)
- 6) *Zoom* (wizout zis, I could never have seen the weird zings zat lie in my Mandle-sets)
- 7) *Typhoon Thompson* (zis shows how petit boys on hover boards can upset ze delicate eco-system)
- 8) *Galaxy Force* (we 'ave a lot to learn from ze detailed study of chocolate and uzzer natural phenomena)
- 9) *Virus* (ees like life, zis one. One moment your deesk it work, ze next, boff! Is dead! Zut Alors!)
- 10) *Never Ending Story* (a beet like ma fractals and a beet like moi, zis one just goes on and on and on).

FROM THE ARCHIVE

I'm not one for harping on about the good old days and delving into the past (except for where my dear old inventing uncle is concerned). But a Mandelbrot's got to do what a Mandelbrot's got to do... so this is what was happening a year ago and very interesting it is too.

WAR OF THE WORMS

NASA was on the receiving end of a virus attack by anti-nuclear protesters this week. The Fu Manchu virus was found on computers which were destined to relay info back from the nuclear-powered Space Shuttle. An estimated 8,000 terminals were infected with messages like "You talk of times of peace for all and then prepare for war" and "WORMS against nuclear killers".

CRITICS GET ATAR STE-AMING

Attention top software developers told NCE their opinions of the new STE machine. Atari hit the roof.

Apparently all were subject to a non-disclosure agreement which should have prevented them from talking to the press. Atari threatening to recall the developers.

TES said they were "Furious and you can print that! Wonder what they'd have said if all the developers had loved the machine?"

BLANK TO THE FUTURE

High Street retailer WhSmith was testing a revolutionary shopping method for computer games. To save space on the shelves they installed a computer in their Glasgow branch which copied games while it waited. The buyer simply supplied a blank tape, or bought one from the shop.

FOOD FOR THOUGHT

The world's greatest chess-playing computer, Deep Thought, was soundly thrashed by a human opponent. Chess world champion, Gary Kasparov (no stranger to Centrefold) trounced the 720,000 tests per second genius in 52 moves. Kasparov's only worry was that the machine would not have been intimidated by its defeat and would therefore be no easier to beat next time.

I WISH I'D SAID THAT

Have you heard any computer related mumbo-jumbo which has made you laugh, cry, or attempt to hang yourself? It could come from an advertisement, an important computer person, or even a magazine.

"We do our best to ensure that every disk is 100 percent perfect. Unfortunately, a tiny proportion will contain errors." *ST User*, December, the issue with the infamous Green Goblin virus.


"The balls grow larger as you get closer to the ground." Chuck Yeager on the audio cassette with EA's *Chuck Yeager's Advanced Flight Trainer*.



COMPONENTS CORNER




FLOPPY DRIVES 5 1/4" 360 (a) £34.00 1.2 (a) £38.00 3 1/2" 720 (a) £33.00 1.44 (a) £37.00 Cable set £6.00 3 1/2" fitting kit (to fit 5 1/4" slot) £2.50 All sold with full fitting instructions	MS WINDOWS 286 and 386 – new and unregistered (Version 2.1) Retailing around £60.00 SPECIAL PRICE: £19.99 (286) £27.99 (386) DR-DOS Version 5.0, with all of its benefits. This month only £65.99	KEYBOARDS 102-key keyboards, auto switching XT/AT, clicking key operation, high quality enhanced keyboard only £35.95
MONITORS 12" amber monochrome £48.00 14" amber monochrome £68.00 14" paper white £72.00 14" CGA (colour) £135.00 14" monochrome VGA £98.00 14" colour VGA £205.00 ALL monitors include tilt and swivel	VIDEO CARDS Monochrome £14.99 CGA £34.99 VGA £47.99 Super VGA £75.99 Full fitting instructions included	GOLDSTAR PRINTERS 9-pin, 80 column printer with tractor feed at an amazing £99.99. Centronics printer cable £9.99. H-P Deskjet Plus (only a few left!), at an incredible price of £599.00. Ex demo Sharp laser printer with H-P laser jet emulator. Only a few left at £699.00.
HARD DRIVES 20 MB £130.00 XT/AT Controller card £48.00 Cable set £6.00 40 MB IDE (AT) drive £175.00 40 MB MFM drive £180.00 IDE Controller card with cable £38.00 MFM Controller card with cable £55.00 IDE Controller card, with cable, 2 serial ports, 1 parallel port, games port and floppy disc controller £42.00		SAMSUNG AT/286 12/8 MHz, 1.2 floppy, 40 MB hard drive, 1 MB RAM, 102 enhanced keyboard, four expansion slots, serial and parallel ports, colour VGA, 14" colour VGA monitor, MS-DOS manuals, one year guarantee, desk ready with operating manuals. Recommended retail price £1,699 – Yours for almost half price ■ £849.00. All come with free 286 Windows.
SOFTWARE ● DacEasy Word – Wordprocessing package (includes dictionary and full manual). ● DacEasy Lucid (Lotus compatible) – Spreadsheet package ● DacEasy DBase (DBase II compatible) ● Individual packages at £24.99 each, or all three for only £69.99 including a free menu system. ● DacEasy Accounting – fully integrated accounts suite encompassing payroll, stock control, nominal ledger etc. £99.99 ALL software provided with FREE helpline.		SHARP QA-25 PROJECTOR PANEL IBM compatible, Sharp QA-25 computer projection panel. Place onto an OHP glass to produce images from PC direct to screen. Panel connected to a CGA video port, allowing projection of the PCs display via an OHP without requiring any software modification. This serves to enlarge text and graphics directly onto a screen. Includes AC adaptor. Retail price £700.00, our price only £399.00. PLUS, CGA adaptor card to allow projection panel to be used at the same time as the monitor. Total Package £429.00.

Oxford
ACADEMIC

Systems

TEL 0993-778077 – ASK FOR SALES DESK.
Or send your order to Oxford Academic Systems
Four Seasons House, 102b Woodstock Road
Witney, Oxford.

ALL TRADE MARKS RECOGNISED.

All prices exclude VAT and delivery.

Access


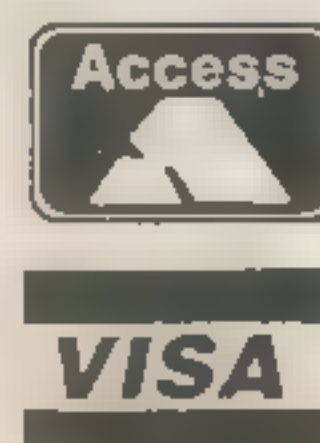
VISA

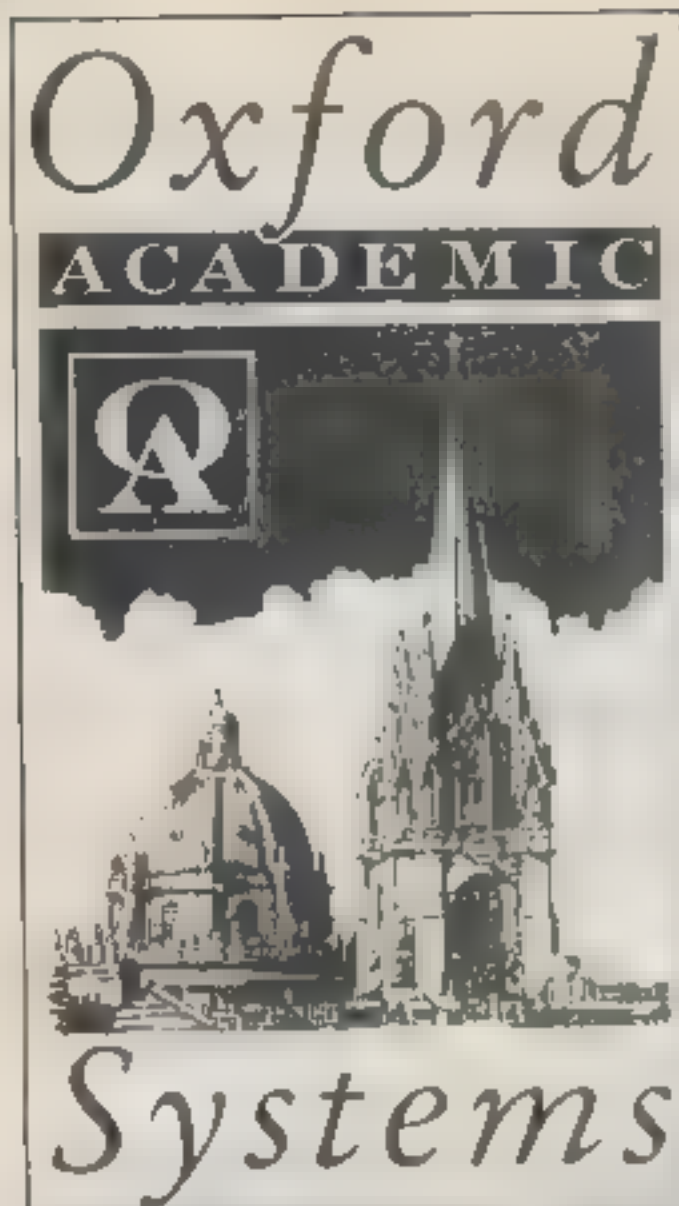


TEL 0993-778077 – ASK FOR SALES DESK.
Or send your order to Oxford Academic Systems
Four Seasons House, 102b Woodstock Road
Witney, Oxford.

ALL TRADE MARKS RECOGNISED.

All prices exclude VAT and delivery.





Free Mouse with every System

A COMPLETE 386 SX SYSTEM WITH COLOUR VGA

- 386SX COLOUR VGA MONITOR
- 40 MEGABYTE HARD DISK
- 1 MEGABYTE RAM
- 102-KEY KEYBOARD
- 1.2 OR 1.44 FLOPPY DRIVE
- 2 SERIAL, 1 PARALLEL PORT



AVAILABLE NOW

This is an American system switchable between 8-16Mhz. Comes fully configured and desk ready. Fully documented, 2 years all parts and labour warranty. The mother board will take up to 4 Meg of RAM on board with the capacity to take 16Meg on a daughter board. The system is 0 wait state and has 8 slots, 6 being free for expansion. The hard drive is a Western Digital 40 Meg sub 25ms IDE device. The video card is a 16 Bit paradise card 256K populated.

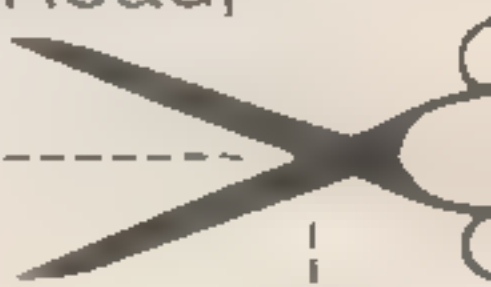
£999
+VAT

**TELEPHONE US NOW ON:
(0993)-778077**

Four Seasons House, 102B Woodstock Road,
Witney, Oxon OX8 6DY.

Other products available
XT 10/12 MHz
AT 12/16MHz
386 20/25/33 MHz
486 25 MHz
Prices exclude VAT & delivery and are correct at time of printing. Warranty does not cover misuse or abuse and normal wear and tear on components.

NAME _____	COMPANY _____
ADDRESS _____	TITLE _____
TEL _____	FAX _____
Are you directly responsible for purchasing? <input type="checkbox"/>	Tick box if you would like a free Mouse with your system <input type="checkbox"/>
Please supply me /	
386SX at £999	<input type="checkbox"/> Sub total <input type="text"/>
with 2nd High Density Floppy £1034	<input type="checkbox"/> VAT <input type="text"/>
with extra RAM @ £55 per Meg	<input type="checkbox"/> Total <input type="text"/>
80 Meg HD add £175	<input type="checkbox"/>
Maths co-processor add £279	<input type="checkbox"/>



◆ Goods Wanted

WANTED early byte, EDN Call Apple or Nibble mags. Also 6805 machine language books or progs & any symbiotic / Ice hard disk. 091 4100936.

ST PD wanted everything returned Ian Kennedy, 9 Cedar Road Redditch, Worcs B97 6HL. Send blank disk for list.

MEGADRIE games wanted buy sell swap phone Neil on 0753 39462.

WANTED circuits info etc for mannesman tally printer mod TU1000 please phone Graham 0602 625649 after 6pm.

PHILIPS 8833 monitor wanted. Must be in good condition. Will collect anywhere in N. Ireland. Phone Jim 0232 794812.

WANTED Sega Megadrive cash. Waiting or six months old C64 lightgun joysticks datacorder loads of games 3D glasses in part exchange or cash.

WANTED Amiga PD I will return disks with a free blank disk. Send PD to: Pete, 68 Donald Drive, Chadwell Heath, Romford, Essex RM6 5DU.

WANTED: 1MB Amiga with software. Will buy or swap for 1Mb Atari ST + software + Loads more 081 653 878 (evenings).



KAO MF2DD
1Mb capacity

OPENING HOURS
Mon-Fri 9.30am-7.00pm
Sat 9.30am-6.00pm
Sun 10.00am-3pm

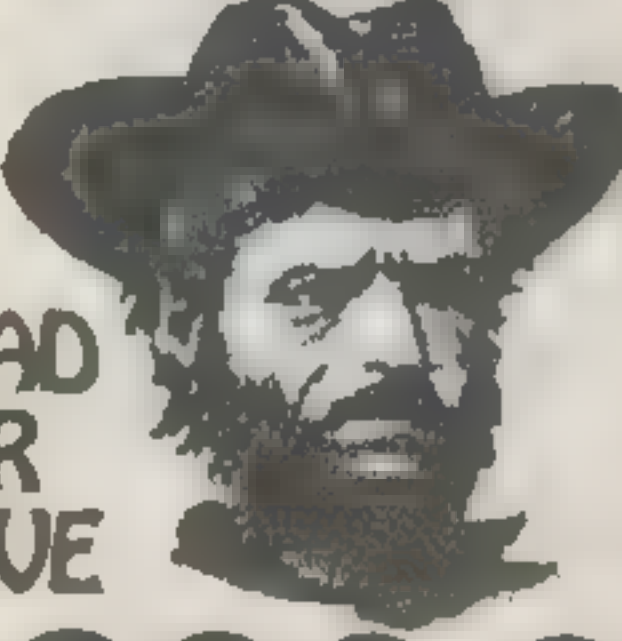
THE WORLD'S FINEST DISKS FROM T.D.K & KAO SERIOUS QUALITY FOR SERIOUS USERS

NEW LOW PRICES

1 MEGABYTE	1.5 MF2DD BULK 50p each on	24.00	100
2 MEGABYTE	1.5 MF2HD BULK £1.00 each on	48.00	95.00

DISK BOXES 40 disks £2.50
48 disks £3.00
96 disks £5.00

VISA



WANTED

USE YOUR VOICE TO OUTDRAW THE GUNFIGHTER

CASH PRIZES

0898 31 35 94

INFODIAL POBox 36 LS1 4TN Call charges 33p Per Min Cheap 44p Per Min All Other Times

WANTED software for Amiga especially Turtle games. Please phone 0603 423978.

MSX Greetings software for sony PRNC41 P/P lotter Plus instructions for use of DIP switches urgently req.

TURBO Pascal wanted for Amiga 500 Also help with getting a genlock and software working. 0734 698067.

WANTED Amiga corporation swap for Indy 500 or E.Huges, Int Soccer. Tel: 088362 4988 After 6.30pm ask for Paul.

ATARI SM124 monitor or similar wanted. Will collect anywhere in N.Ireland. Phone Jim 0232 794812.

P/X MT91 inkjet printer against ST mono monitor £550 or 24 pin DMP £400 or sell for £650 ONO. Serious offers only please. (0332) 367642.

THE following back issues of NCE 3, 4, 6, 10, 11, 13, 14, 15, 16, 19, 21 & 29. Please phone Terry on 071-790 7499 after 6pm.

POOLS Master for Commodore 64 or will swap for Pools Winner II and Fixgen 1990/91. Telephone Tyneside 2634866.

WANTED: must be cheap, or swap. Two PSUs for the 3X81 and one RAM pack (16K). Phone Reading (0734) 750918, ask for George.

AMIGA A500 desperately needed. Can pay up to £200. No extras needed. Tel: (0252) 615836, ask for Scott, after 5pm.

SOUTHERN PUBLIC DOMAIN

Amiga P.D. Library open Mon-Sat 9am-5pm
Southern P.D. presents its P.D. madness
All disks are now only 99p + 60p P&P
Buy 10 or more disks and get 5 blank disks FREE

A005 Pugs in Space	A080 RSI Megademo (2 disks)	A054 Amiga Music 1
A009 Predators Megademo. (2 disks)	A117 Shadow of the Beast Demo	A058 Crusader Audio X
A013 Kefrens Megademo II (2 disks)	A119 Turtlemania by Red Devil	A059 Vision Megademo IV
A012 Alcatraz Megademo 4 (3 disks)	A101 Game Music Creator	A082 Rebels Megademo
A015 Star Trek Game I (2 disks 1 Meg)	A093 Ace Demo Disk 2	A083 Space Ace Demo
A019 Powerlads Powermix 1 (1 Meg)	A089 Ian & Mick's Megademo	A081 Amazing Music 1
A023 Vangelis Demo (1 Meg)	A090 Link First Megademo	A112 Madonna. Spanky
A024 Digital Concert 2	A070 RAF Megademo (2 disks)	A116 Uedit (W/Processor)
A038 Digital Concert 3	A017 Eotmimo (boulderdash game)	A109 Kefrens Jukebox
A039 Digital Concert 4	A044 Space Blitz (4 space games)	A100 Yahzee (dice game)
A078 Budbrain Megademo (2 disks)	A048 Avenger Megademo	A071 Mug Demo disk 55
	A046 BAD (M Jackson)	A036 D-Mob Music 4
	A042 Amiga Chart 3	A073 Darkstar Utility 3
	A061 THR Demo	A110 Amiga Chart 5
	A053 Crusader Bacteria	A027 No Limits Demopack
		A004 Nasa Pictures

Catalogue on disk 99p. Blank disks 60p each or 10 for £5.00

All P.D. disks are now only 99p each + 60p P&P

Please make cheque/postal order payable to: **SOUTHERN COMPUTERS**
31 Hanson Road, Newhaven, East Sussex, BN9 9EQ. Tel: 0273 517147
Please send a stamped addressed envelope, 9x4 for a free catalogue

ATARI ST & STE PUBLIC DOMAIN

The latest addition of our disk catalogue/magazine really is full of Christmas cheer. It features our biggest ever competition, a full game on disk and not forgetting details of our extensive range of quality PD.
FOR YOUR FREE DISK CATALOGUE Send a blank disk or £1 now to:

THE OTHER PD LIBRARY
108 Kenmare Rd., Wavertree, Liverpool, L15 3HQ

WANTED: ICL computers or parts of, also Rair or Merlin. Nigel, Tel: (0293) 513354 anytime.

MUSIC X user manual wanted. Mine was stolen! Also Octylizer PD disk. Both for Amiga. Tel: (0274) 876154 after 5pm.

LASER printer, HP compatible. Swap or P/ex. other PC equipment eg. VGA monitor, memory modem, etc. 081-668 8041.

WANTED: soft 968 firmware manual for Amstrad CPC. Also loads of original games for sale, mainly budgets. James Neill, 4 Oak Tree Meadow, Walton, Wakefield, W. Yorks.

IS there anybody out there who can give me any tips for the Gradius 3 coinop? If so, then please write to: B. Cassidy, 12 Cawood Square, Brinnington, Stockport, Cheshire, SK5 8JS.

WANTED: Timeworks DTP for A level student, only able to afford around £20. Tel: 081-205 8149, ask for Mubashar.

WANTED: any information, manuals, hardware, etc. for a Redstone computer. F. Waspe, 21 Brooklyn Avenue, Leeds, LS12 2BS, 639545.

ACTION Replay enhancement disk for CBM64 for cash. Write to: Wilgaus, 1 Newton Grove, Grimsby, DN33 1DB.

WANTED FOR CASH

Amstrad PC's, PCW's, Amigas, Atari ST's. Printers, Lasers, ANY QUANTITY CONSIDERED, working or not.
DMR ELECTRONICS: 0274 817889

WHITEROSE COMPUTERS

NO 1 IN WEST YORKSHIRE... FOR ATARI ST & AMIGA
WE ALSO SUPPORT ... ATARI XL/XE/2600. COMMODORE 64/128. SPECTRUM 48K/+3. AMSTRAD CPC464/6128/PCW. ATARI & CBM PC's & NINTENDO

**** Special Offer **** AMIGA A500 from £349.99 inc. LEISURE, ENTERTAINMENT, EDUCATION, GRAPHICAL, BUSINESS & MUSIC PACKAGES ALL AT DISCOUNT PRICES
1000s OF TAPES & DISKS IN STOCK!

Monitors, printers, disk drives, RAM upgrades, cassette units, ribbons, discs, storage boxes, joysticks & interfaces, cleaning kits, mice (C64-ST-Amiga-PC etc). Plugs, leads, stands for printers & monitors also dust covers, cassettes, head alignment kits and lots more!!!

CHECK OUT OUR ST PD LIBRARY OVER 250 DISKS NOW IN!!!
OPEN 6 DAYS A WEEK 10AM- 5.30PM WHITEROSE ARE TWO THIRDS OF A MILE FROM J26 M62 NEXT TO THE TRAFFIC LIGHTS/CROSSING
WHITEROSE COMPUTERS: BROOKLYN COURT: BRADFORD ROAD CLECKHEATON: WEST YORKSHIRE: BD19 4TJ: 0274 851131 OR FAX US ON 0274 875977 (both lines 24 hours a day!)

Access **SMG SUPPLIES** **VISA**
For all your computer needs

AMIGA'S ONLY £379	SEGA MEGA DRIVES ONLY £180 ALL PRICES HAVE NO HIDDEN EXTRAS	ATARI ST'S FROM £289
DISKS FROM 38p	SMG SUPPLIES 13 Pine Close Bradley, Wrexham CLWYD LL11 4BQ (0978) 758842	STE SIMMS from £30 STFM UPGRADES from £35

MANY ITEMS NOT LISTED PLEASE PHONE

ORIC • ORIC • ORIC

Huge stocks of computers, disc drives & software at unbelievable prices

For full details ring **(0734) 328251**
or write to:

**OPELCO, IMPERIAL COURT,
STATION PARADE, VIRGINIA WATER,
SURREY, GU25 4DH.**

We have been selling ORIC hardware & software for over 6 years

COMPUTER REPAIRS
★ FREE ESTIMATES ★ 12 MONTHS WARRANTY ★
Amstrad, Atari, Commodore.
Monitors & Printers, Amiga & ST Specialists
Fixed labour charge + parts & carriage
★ STFM POWER SUPPLY REPAIRED £30 ALL INC. ★

COMPUTER SPARES
Parts & Service Manuals for
Acorn, Amstrad, Atari, Commodore, Sinclair
& most makes of Monitors & Printers
All services & goods supplied subject to our terms of trade

GJS COMPUTER SERVICES
37 Bamford Street, Clayton, Manchester, M11 4FE
(Callers by appointment only)
Tel: 061 231 6608 Fax: 061 223 7531

A whole new way of communicating your message:

CHEST-TOP PUBLISHING!

Why limit yourself ■ mere paper?

Now you can use your computer to print personalised T-Shirts!

Use our special heat-transfer ribbons with any software (text printing requires reversal) on any computer to make a transfer sheet of your design, then simply iron onto a T-Shirt or other cloth item. We also have two sizes of heat-transfer pens for colouring your design, as well as four-colour ribbons for certain colour models (like Star LC-10c). Example price - Amstrad PCW-8256/8512 black T-Shirt ribbon £9.95 incl VAT/UK p&p

64 different printers supported

MGA SoftCat
41 Cinque Ports St., Rye, E. Sussex TN31 7AD
Tel: (0797) 226601 fax: 226721

WANTED: a DTP for the C64, will pay £20-£25 or will swap for games: ie Batman, etc. Phone (0207) 580130.

PRINTER wanted for an Atari ST up to £60 paid, will answer all. Jon, 65 Granby Close, Weymouth, Dorset, DT4 0SR.

WANTED: 48K Spectrum + Microdrive + manual. Also books etc. for 48K and printer interface. Offers to John Adams, 17 Abbey Gdns, Belfast, BT5 7HL.

COMPUTER wanted: Atari ST or Amiga 500, but would consider any package with 3.5" disk, reasonable price. J. Mooney, 82 Tiree, Drive, Cumbernauld, G67 1NX.

BARGAIN! CBM64, Disk drive, printer, accessories £1300 original software, amazing! Only £325. Phone 0442 62554 & ask for Paul?

AMSTRAD CPC 2nd drive £40
Amstrad DMP2000 £60 good condition tel (0794) 513911.

AMSTRAD colour CPC 6128 + manual £250 buyer collects tel (0794) 516911.

PROTEXT and Prospell in Rombobox use with Amstrad CPC 6128 £40 tel (0794) 516911.

AMSTRAD CPC464, colour monitor, £500 worth of games, printer, listings book, sound book, joystick + loads of mags. £300 ono.

DRAGON 64, JP101 Printer, cassette, utilities inc. Edit+ Word Proc. Games manuals £100. 0329 230871 Fareham.

FOR ALL YOUR PC NEEDS CONTACT
Testboom Ltd, 31 Chapel Street
Ormskirk, Lancs L39 4QE
Telephone 0695 579106

AMIGA wanted will swap for 1040STFM with 5.25" drive and 1000+ games. Write to: Mike, 254 Grasmere Avenue, Warrington, Cheshire, WA2 0LW.

WANTED: Apple II+/E hardware/software contacts. I need a new power pack. Please call Paul on 091-297 0541.

WANTED: Colecovision games and Atari 2600 games large or small collections with or without console. (0527) 32230.

WANTED: Starquake by Bubble Bus will pay up to £10. Phone Paul on (0642) 473722.

C64 software on cassette SAE for lists Michael Vainola ■ Woodside Cottages, Highwood, Chelmsford, Essex CM13RD.

CMB MPS803 Printer. Suit CBM 64/128. Inc ribbon + manuals etc. Boxed as new. Tel 0206 860763 (Andy) after 5pm.

BROTHER daisy wheel (hr15) printer with sheet feeder. Works ok but could use service £100 Tel: 081 773 4424 David.

AGENDA 64K organiser + accessories. Still boxes £100. Sharp ZQ5200 - £50. Casio SF8000 - £50. All as new 0236 824049.

ALL COMPUTER HARDWARE AND SOFTWARE WANTED FOR CASH OR EXCHANGE
NOTHING REFUSED!!
071 727 0424

WANTED: TI99/4A games modules and cheap hardware. Call Les on (0245) 72572 (Essex) after 6pm.

MANUAL or any info on Watanabe plotters (pref. MP1000) to buy or borrow, expenses paid. (0763) 260120 eve or w/e.

MODULA 2 for Atari ST must work in .5m RAM, low price - student. Contact I. Brown, SY St, Block B3 Waveney Terrace, UEA, Norwich, NR4 7TJ.

◆ FOR SALE

MICRODRIVES (2) £15 each
M/Drives carts 20 used inc. TAS2 & M/File £30 Kempston centronics "E" PTR I Face £15 0905 422413.

TOSHIBA MSX HX10 with Data Corder, joystick, BW TV, 45 games + manuals. Still boxed. £200 ono tel: Mark 0625 33669.

£150 for Amstrad CPC colour monitor. Excellent condition. Need quick sale phone Steve after 5pm weekdays. Harlow (0279) 434191.

SEGA master system plus. As new still boxed. joystick. Many games. Worth over £200, sell for £95. Ring Luton 0582 462346.

C64+ tape drive, hundreds of games, books, mouse, magazines, joysticks sell £230 ono lan (0635) 66098.

COMMODORE MPS803 Printer £50. CNT6410 modem & software £40. Both for C64/128 only. Chester (0244) 851066.

Childs.Play

FOR THE SPECTRUM
+3 DISK +2A TAPE

SAVE MUSIC TO DISK OR
TAPE.....
PRINT MUSIC SHEETS
MUSIC PLAYED THROUGH
TELEVISIONS OR
MIDI KEYBOARDS

FOR MORE INFORMATION
SEND S.A.E TO P NAUGHTON
2 THE GILLS OTLEY
LS21 2AH



DISK VERSION £8
+2A VERSION £6
MIDI LEAD £7.50

SAVE £1.50 OFF MIDI
LEAD WHEN PURCHASED
WITH EVERY COPY
OF
CHILDS.PLAY

BBC Master compact 128k. Built-in
3.5" disc drive. Joystick. £400+
games, mags + manuals. VGC
bargain £270. ONO (0772) 39895.

DISK Drive and disciple interface for
spectrum 128 also multiface 128
offers to J.Daw 83 Fells Rigg
Livingston West Lothian Scotland.

C64 manual leads 3 joysticks ■
cassette drives balkup cart Mk1 v70
maga £1000 + of games inc Italy
1990 Kick Off 2 OP Wolf £220 ONO.

MAGAZINES and most discs
Commodore disk user vols 142 &
your Commodore 4/86 to 2188 £20
Chester (0244) 851066.

AMIGA hard drive (A590) for sale.
Only 3 months old, boxed as new
£275 o.n.o. Phone (0756) 794713,
after 6pm.

GAMEBOY, 4 weeks old, unwanted
gift. Immaculate, includes 2p lead,
Tetris, headphones, only £70. Bath:
(0225) 743727.

BBCB monitor, disk drive, ROMS,
software, disks, printer, joysticks, etc.
£350 or offer. Tel: (0306) 885298.
(Dorking).

FOR sale: Sony branded disks MFD-
1DD £6 for ten. Phone Andy after
6pm on 081-440 0095.

AMSTRAD CPC original software on
disk. SAE for list. T. Keevil, 14
Pythchley Close, Brixworth, Northants.
NN6 9EW.

TOSHIBA T1000SE - virtually
unused, CW Locoscript PC, mouse,
disks £750, Diconix 150+ £225. Tel:
(0223) 247980.

COMMODORE 64, C2N, 1541 disk
drive, speech unit, joystick, loads of
games £260. Tel: 051-220 2771 after
6pm.

LEARN to code. Books for sale.
Master Machine Code ZX Spectrum.
Also ZX Spectrum Astronomy offers.
(0934) 502537 eve.

YOUR Spectrum mag, 1 ■ 18, QL
World complete to Feb 90 (except
Aug. 88), ■ mags. Offers: Reading
(0734) 422908.

SEGA 16bit megadrive (Scart) 2 1/2
months old, with Super Monaco,
Herzpg Zwei, Arnold P. Golf, Batman,
£230 o.n.o. Tel: (0302) 859851.

520STE + 1 Meg upgrade. Excellent
condition. Free joystick, F19, Xenon
2 etc. £260 for quick sale. Tel: (0703)
234728.

CONTROL robots, lights, motors with
ZX Spectrum or 81. ■ relay o/p's & 8
switch i/p's £25. Tel: Ian (0603) 250
479.

ACORN Electron 64K turbo, plus
one, view/viewsheet, manuals, leads,
PSU, programming books ■ unused
games, all as new £120. (0392)
77462.

FREE FREE FREE

THE ULTIMATE PC SHAREWARE CATALOGUE-ON-A-DISK

- Updated every-day
- 1000's of programs
- Menu Driven disks
- Tested & guaranteed
- Fast service

Easy to use
100's of disks
Quality media
Lowest prices
Friendly staff

PRICES
£1.00-£1.50 (5.25")
£1.50-£2.00 (3.5")
plus £1.00 p & ■

Write or telephone today for your free copy.
Premier Shareware, ■ Berrylands, Orpington,
Kent BR6 9TF

TEL: 0689 839533

MODEMS! MODEMS! MODEMS!

Large stocks of major brands available at realistic prices.
Technical advice a pleasure!

V22 (1200 baud) Hayes compatible from £75
V22bis (2400 baud) Hayes compatible from £90
Fax cards from £120

Supply Solutions specialise in top quality second-user
modems from major UK manufacturers. All modems are
BABT approved, fully tested prior to despatch and guaranteed

Supply Solutions

187 Uxbridge Rd, LONDON W13 9AA

Tel: 081-566-3639. Lines open till 8pm Monday + Tuesday
STRICTLY MAIL ORDER ONLY

Z88+ 128K + Power Pack £250.
Diconix 150. Portable inkjet £250.
Commodore 128+ 1570DD +
Datacass and £1000 of software
£220.

GAMES for sale, for Amiga, Bomber
£6, F29 £6, D-Master £6, X-Out £6,
many more originals, call 081-688
2602.

PHILIPS green monitor, hardly used,
boxed £35. Buyer collects. Contact:
Z. Harun, 25 Brunswick Street,
Sheffield, S10 2FJ.

ATARI 65XE, data recorder, joystick,
100+ games £125 o.n.o. Contact
Simon on (0203) 661270 mon-Fri
6pm-8pm. (Coventry).

LOCOLINK cable + PCW transfer
software, as new, boxed £18 inc.
postage. Tel: 0672 810157.

BOXED ST originals: International
Soccer Challenge, Imperium,
Projectyle, Flood £10 each o.n.o.
(0992) 714500.

C64, manual, 3 joysticks, 70 mags, 2
cassette drives, MKIV replay
cartridge, £1000 + software, inc. Italy
1990, Kick Off 1&2, £220. (0582)
594756.

1/2 meg Atari ST internal drive, good
condition £20. Telephone Mick on
(0827) 283732 Tamworth.

ARCHIMEDES 310 base Riscos.
Boxed, as new with manuals, £495
o.n.o. Tel: (0282) 602836 or 692929,
NW Lancs.

1040STFM £300 o.n.o. 5.25" drive +
1000 games £150 or swap for Amiga
- 254 Grasmere Avenue, Warrington,
WA2 0LW.

TREASURE ISLAND



0898 313 586

Infodial PO Box 36 LS1 4TN Call Charges 33P Per min Cheap Rate 44P ■ other times

ELECTRON (no colour)
view/viewsheet, games, printer,
datacorder, all manuals, £60 o.n.o.
(0634) 362150. N. Kent.

AMIGA audio digitiser for sale
£20. Still in box and Amiga games for
sale. Send for list. S. Hobbs, 40
Penrhos Crescent, Rumney, Cardiff,
S. Wales, CF3 8PB.

F29 Retaliator £15 or swap for
Batman (Amiga). Graphology
program £25. Poolmaster £10, both
originals. Tel: (0268) 793973.

GEOS128 (or 64) + Deskpack Plus +
Fontpack worth £60 will accept £25.
Also Geoprogrammer for £15. Tel:
(0274) 662275.

PLEASE will someone buy my PC
Supercharger with 1Mb RAM, DOS
and ■ months warranty, £250. Nick
(0628) 31793.

SAM Coupe 256k. Joystick, tape
recorder, Spec. games £160 SAE: F.
Robertson, 2a Lethame Road,
Strathaven, ML10 6AD.

PC Engine + 10 games + extras.
Cost £547 accept £250. Also BBC B
+ tapedeck, games, joysticks £160.
Tel: eves (0255) 474468.

AMIGA software Lattice C v5 £75.
Aztec C £45, AMOS Basic £25,
DPaint 3 £35. Tel: 081-902 4310
eves and weekends.

ST emulator PD bought in error, as it
needs 2 drives. Claims to run
autoroute, Battle Chess, Tiger Cub.
Send £3 + disk for the Amiga! S.
Oswin, 19 Bridge Meadow, Denton,
Northants, NN7 1DA.

SINCLAIR 128 +3 for sale, good
condition, will sell for £65. Contact
Sandy Tel: Ori 5216715 after 6pm.



ELECTRONICS

**IF YOU WANT
NAKED LADIES
CUT THROAT PRICES
COWBOYS
TRY ELSEWHERE,**

BUT IF YOU WANT

Good prices, good service and a good product range covering all leading Midi/Music packages, education, art and graphics packages plus business packages please contact us.

FOOD FOR THOUGHT

DON'T THINK CHEAPEST IS ALWAYS BEST

DON'T BUY GREY IMPORTS

DON'T PAY UNTIL YOU'RE SURE

DO REMEMBER THAT AFTER-SALES SERVICE IS WORTH
IT'S WEIGHT IN GOLD

REPAIRS: NO PROBLEM

WE HAVE OUR OWN SERVICE DEPARTMENT

Mon-Thurs 11am-9pm

Fri-Sat 11am-7pm

SGM Electronics, 19 Charles Street, Wigan, Lancs WN1 2BP

TEL: (0942) 321435

FAX: (0942) 821273

HIGH speed IBM-PC modem with software 2400 baud 100% Hayes compatible, many features, £99. Tel: (0533) 610215.

2MB STE £370, 2nd drive £50, Master Sound £20, Multiface ST £20, Devpac v2 £30, Syn. Exp £25. (0206) 47626 ask for Richard.

STE 1/2 meg upgrade £25, Modluar 2 Developer £40, Devpac v2 £25, also lots of software, originals. Tel (0206) 47626 - Richard.

ATARI STE, 8 months old + games (Power Pack), also other software, hardly used, receipts to prove date of purchase, immaculate, £250. Mr. WJ Billington, 86 Sherfield Gdns, SW15 4PR.

CPC6128 green monitor, Pocket Wordstar, Multiface 2, games etc. Cost £650+ sell £300 o.n.o. (0686) 650597 - Mid Wales.

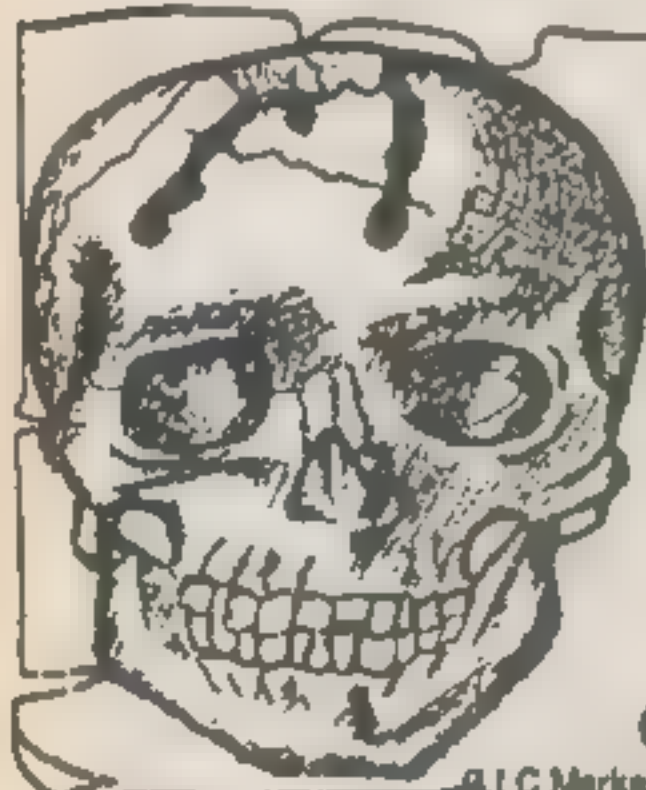
AMIGA A500, 2nd drive, 1 meg memory colour printer, 1200 baud modem, software, blank disks, books. Phone for entire list £750, may separate. (0502) 717566.

MAGAZINES - Atari ST User, Aug 88 - Feb 90 inclusive. Contact Stephen, 8 Roddens Gdns, Belfast, BT5 7JJ, N. Ireland.

MAGAZINES - The Games Machine, issues 1 to 33 inclusive, mint condition. Contact Stephen, 8 Roddens Gdns, Belfast, BT5 7JJ, N. Ireland.

COMMODORE PC10 twin 5.25" drives, hardly used, with 1084S colour monitor, £495. Phone Steve on (0298) 72502.

3.5" disk drive, black, 1/3 height, uncased, v.g.c. £40 each. Phone (0204) 389528 after 6pm, ask for Sohail.



TOMB OF DEATH

Can You Survive In The Dark Labyrinth
Defeat The Demons, Ghoules & Zombies
Outwit The Cunning Witches & Achieve
Riches Beyond Your Wildest Dreams

0898-100-697

© L.C. Marketing, Box 254, NN1 4AL. Calls cost 33p/min Cheap Rate. 44p other times

COMPUTER REPAIRS

Fixed Super Low Prices/

Inclusive of parts, labour and VAT



**FIRST AID
FOR
TECHNOLOGY**

1 WEEK TURNROUND

* AMSTRAD / SINCLAIR AUTHORISED *

SPECTRUM 48K	£14	C64	£22
SPECTRUM 128	£18	VIC 20, C+4	£22
SPECTRUM +2	£27	1541 DISK DRIVE	£36
C128	£29	C2N TDECK	£19
C16	£18	C64 PSU for sale	£27
Amiga	POA	Atari ST	POA

Please enclose payment with item - 3 month warranty on repair.

Please enclose advert with repair.

W.T.S. ELECTRONICS LTD

(NCE 15 11 90)

Studio Master House, Chaulend Lane, Luton, Beds. LU4 8EZ

Tel: 0582 491949

(4 lines)

Standard terms of business apply

A2000 40Mb HD, A1081, ext. drive, Epson LQ850, Digiview, Copystand, £2000 software, £2000 no offers. Dave 071-627 0667.

ACORN Electron + books, games, magazines, Linkword, Spanish and German course, + Lisp + Turtle graphics, £70. 051-334 3083.

SPECTRUM Teletext adaptor cost £100, will accept £50. Alphacom printer + 5 rolls paper £25 o.n.o. 051-334 3083.

SPECTRUM 48K + interface, Microdrive + 1, 2 cartridges, £100. Interface 2 and joystick £20. Tel. 051 334 3083.

ATARI 130XE + brand new, boxed, data recorder with all relevant leads etc. £55. Contact (0989) 65818.

RACAL Cadet PCB designer (not PC) with manuals and software. Offers wanted. Tel: (0622) 672525 evenings only.

SPECTRUM computer 48K joystick port + joystick manuals, 30 games £50 o.n.o. Phone (0293) 521347 after 5pm.

ATARI 520STFM, 1meg RAM, 2DD drives, mono monitor, software, mags, disks, etc. All boxed, £395. Ring (044282) 4600.



100 3.5" DISKS WITH STORAGE BOX £34.95



100 5.25" DISKS WITH STORAGE BOX £34.95

Fantastic Savings!

All boxes come complete with dividers, two keys and are antistatic
All discs come with labels and are guaranteed 100% error free



HUNMANBY COMPUTER SUPPLIES
SUPPLIES HOUSE

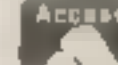
HUNMANBY INDUSTRIAL ESTATE
FILEY, NORTH YORKSHIRE YO14 0PH
Tel: 0723-891-888 (24 hours) 5 Lines
Fax: 0723-890-836



ASK FOR FREE CATALOGUE

Remember - all prices include VAT and delivery! There are no hidden extras to pay! Personal callers welcome
Monday-Friday 9 30am - 4.30pm

VISA E/OE



Let this advertising space work for YOU!!

For Only £61

Contact Tim Partridge

on

0225 442244

SEGA Megadrive for sale only £180 with 3 top games. As text convertor, so all games in Eng. Mat (0270) 216549.

AMIGA software: Protext v5 £100, Prodata £50, The Works £50. Phone Paul 091-417 4168 after 6pm.

ATARI Mega 4 computer £450. Atari Megafile, 30Mb hard disk requires software and instructions £200. 051-260 5603.

GREENKAT 10 x 50 binoculars, super wide angle quick focus optics. Pnex. for Atari SM124. 061-653 8535.

PRINTER Panasonic 1081, 10 mths old with extras £90, or part-exc. for col. monitor (Amiga). Tel: Shaz 081-570 3564.

ATARI 520STE many extras £300 STE 4Mb RAM upgrade £160. Paul, 35 Shaw Crescent, Lochgelly, Fife, KY5 9LH.

QL software: Reluctant sale of £500 worth for £200, may split. Ring Sue 071-928 7631 (days).

ATARI 8 bit disk software, £3 + post per disk. (03985) 438 or SAE: 3 Townmead, Oakford, Devon, EX16 9EW.

COMMODORE MPS801 printer with manual, lead, ribbon and paper, cost £250, will accept £125. Phone (0742) 477958.

MT91 inkjet printer, with accessories, boxed, as new. 360dpi print quality! Offers around £650. No time wasters. Phone Paul (0332) 367642.

R.S.T COMPUTER MEDIA - AMIGA SPECIALIST MAIL ORDER/HARDWARE/SOFTWARE

0582 872754

SPECIAL CHRISTMAS OFFER

1 MEG AMIGA MEGAPACK £399 inc. VAT plus joystick
1084S MONITOR £240 inc. VAT & free delivery

FREE 24HR
DELIVERY
SECURICOR

With EVERY Amiga A500: SCREEN GEMS ★ FLIGHT OF FANTASY ★ OR ★ BATPACK
★ JOYSTICK ★ 1 MEG OF MEMORY ★ READY FITTED & TESTED ★
★ TV MODULATOR ★ WORKBENCH ★ MOUSE ★

SCREEN GEMS	FLIGHT OF FANTASY	BAT PACK
★ Shadow of the Beast II ★ Back to the Future II ★ Days of Thunder ★ Knightbreed ★ Deluxe Paint II	★ F29 Retaliator ★ Rainbow Island ★ Escape from the Planet of the Robot Monsters ★ Deluxe Paint II	★ Batman - The Movie ★ F-18 Interceptor ★ New Zealand Story ★ Deluxe Paint II

DISK DRIVES CUMANA 3.5 £69.00+P&P 20 MEG Amiga A590 Hard drive £339 + P&P

**RING NOW 0582 872754 OR WRITE R.S.T COMPUTER MEDIA,
57 RIDGEWAY, KENSWORTH, BEDS LU6 3RL**

AMIGA A501 mem. exp. only £35.
Printer paper cont. narrow tractor
2000 £5, wide 2000 £8. (0703)
676949 after 7pm.

SPECTRUM 48K, interface +
Microdrive, Teach Yourself
Programming and other programs.
Ring 081-577 6671 after 5pm. £50
only.

ATARI 520STFM 1Mb RAM int. DS
drive, ext. drive, mono monitor,
Pandaal Scanner, various books +
software £495. (0272) 572641.

AMSTRAD SM2400 stand alone
modem, never used, £150 o.n.o.
(0925) 572313.

SEAGATE ST251 hard disk, used
£75. Tel: (0494) 445864 eves &
w/ends.

520STFM computer & mouse,
internal 1Mb disk drive, some
software incl. PD. Phone Gaz: (0993)
845859, price £230.

AMSTRAD CPC software clearout.
Titles from 75p - many bargains.
Send SAE to: M. Pinder, 4 Wham
Hey, Preston, PR4 4XU.

COMPAQ 386S 5Mb RAM, 40Mb
hard disk, VGA colour monitor and
immac. computer trolley, less than
one year old, £1700 o.n.o. 081-311
5178.

COMMODORE 64 budget games for
sale 31 each, S. Hang On, Crazy
Cars, Rebel, Quattro Sports and
Batman Caped Crusader. Tel: Glos.
722371 (ask for Dave).

OLDS, Virus and Stonebreaker - 3
great games for £10, Taritalk £13.
Phone Geoff on (0506) 416131.
Replay software £15.

AMSTRAD CPC6128 with colour
monitor, games and joystick for £250
ONO. Tel: (0582) 492069.

STAR LC10 mono printer in excellent
condition and boxed - £135. Call
evenings or weekends: 0705 864006.

IBM compatible, 640K, 5.25" mono
with mouse £370. LQ 24 pin printer
new £200. Tel: Paul on 0762 851641
after 6pm.

AMIGA software. Powerdrome, Stunt
Car Racer, Fast Lane, Falcon, Crazy
Cars II, Super Hang On, £10 each or
£50 the lot. Write: M. Sutton, 8 Heol
Cledau, Waunarlwydd, Swansea.

COMMODORE 64+ joystick, £300 +
worth of software including Kick Off 2,
Stealth Fighter, Gunship only £110
ono. Tel: (Weymouth) 776703. Ask
for Darren.

AMIGA software including Power
Basic, GFA Basic, K-Data and more.
All unregistered. Offers. Tel: 0294
67086.

SYNCR0 express Mk II £25. Phone
0827 51738.

ATARI 520STFM, 11 months old.
Joystick, over 60 games (all new),
dozens of utilities, demos, mags etc.
All boxed, documented. Mint
condition £450 ono. Tel: (Midlothian)
71-74559.

WAKE UP NOTTINGHAM!

AMIGA, ST, PORTFOLIO, LYNX

Hardware, software and peripherals
at fantastic show prices!

at the **CHRISTMAS COMPUTER SHOW**
Sherwood Community Centre, Mansfield Road,
Sherwood, Nottingham. (opposite Woodthorpe Park)

Sunday 2nd December 1990 - All day.

See you there, or if you can't make it ring

MIKE JERVIS 16 bit computers (0602) 274369

19 Portree Drive, Rise Park, Nottingham. NG5 5DT

for a free price list

The key to a Happy Christmas

Roland

CM32LA, CM32PCM,
CM64, PC200, CN20,
CP40, CF10.

Now all in stock.
Ready to fill
your
Xmas
stocking.

Make your true love's
Christmas at:

BELL MUSIC
3 ROMAN SQUARE 0795
SITTINGBOURNE 425931

FOR
YOUR MUSICAL
MIDI REQUIREMENTS.

Try the Yamaha PSS590
keyboard at only
£149.99

The Incredible EVSI Expander at
only £299.99

For all your home computer software.
If it's not in stock we will get it!

TRY US FIRST!

ZX Spectrum +2, Magnum Light gun,
£200 worth of software, Multiface 2, 2
joysticks, books and manuals. All
boxed £200. Phone 0482 899956.

INTEL 80387-25, 25Mhz co-
processor, VGA monitor & card, 2Mb
memory card. Fully populated.
Sell/swap. Tel: 081 668 8041.

MANNESMANN MT80 printer.
Excellent condition, dust cover £65.
No offers. Tel: 0708 746900.

ATARI 520STFM, 14 months old,
external drive £700 + software,
mouse, joystick, lots of mags and
disks. £330. Tel: 051 608 9761.

WH Smith computer data cassette
recorder. Absolutely ideal for
Spectrum 48K etc. £18 P&P. Tel: 021
443 1265.

COMMODORE 64 + 76 games.
Perfect working order with manual +
program book. Tel: Manchester 061
755 3210 £80.

OLD Crash magazines for sale. All
include cassettes. Write to: B.
Cassidy, 12 Cawood Sq, Brinnington,
Stockport, Cheshire, SK5 8JS.

SECONDHAND Spectrum software
for sale. For more info write to: B.
Cassidy, Brinnington, Stockport,
Cheshire, SK5 8JS.

SOFTCELL SUPER SAVERS

PC Share Ware

£1.75 Per Disk Fully Inclusive

PC Type II (3)	£5.00
NY Word (3)	£5.00
PC File dB (3)	£5.00
PC File (3)	£5.00
Front Office (3)	£5.00
PC Type (3)	£5.00
PC Calc (3)	£5.00
PC File + V3 (3)	£5.00
Freeway Accts (3)	£5.00
Ford Car 11 (2)	£3.50
Super Astrology (3)	£5.00
Page Fine, Cont. (3)	£5.00
£5.00 Set £6.00 3.5	

EGA Pacman	£1.75
Desktop Collection	£1.75
Educational Games	£1.75
Dr Sleep	£1.75
Laser Letterhead	£1.75
Home Records	£1.75
Share Spell	£1.75
Bar Codes	£1.75
Windows Toolkit	£1.75
Windows Games	£1.75
base 4 Tutor	£1.75
Food Analysis	£1.75
+ 100's more	

**COMMODORE
STARTER
PACKS
FROM
£498**

**SCHNEIDER
COMPUTERS**

- Quality
- Value
- Free Software

10 5/14 Discs £16.00, 10 3 1/2 Discs £25.00
For further details write or phone
for a FREE catalogue!

Softcell Services, Dept NCE, 25 Maywood, Brynna, Pontyclun,
Mid Glamorgan, CF7 9PZ. Tel: (0443) 238630 anytime

P.M. GAMES

PO BOX 155,
HORSHAM,
WEST SUSSEX
RH12 4TE.

MEGADRIVE

Megadrive	£145.00
Joystick	£35.00
Batman	£35.00
Columns	£30.00
Eswat	£31.00
Ghostbusters	£31.00
Golden Axe	£31.00
Klax	£31.00
Moonwalker	£31.00
Phelios	£31.00
Super Shinobi	£31.00
Super Monaco	£31.00
Super Thunderblade	£31.00
Thunderforce III	£35.00

P.C. ENGINE

Core Graf	£145.00
Control Pad	£15.00
Atomic Robokid	£31.00
Devil Crash	£31.00
Die Hard	£35.00
Don Doko Don	£31.00
Gunhead	£31.00
Hell Explorer	£31.00
Klax	£35.00
Ninja Spirit	£31.00
Operation Wolf	£35.00
Rastan Saga II	£31.00
Splatter House	£31.00
Superstar Soldier	£31.00

Cheques payable to: P.M. GAMES
P&P: Consoles £3.00 Games 50p
Hotline (0403) 61899 6pm-9pm only please

CONEC COMPUTER SERVICES TEL: 0582 24236

HOME COMPUTERS	WORD PROCESSORS	FAX MACHINES
464 Plus Mono£194	PCW 8256£339	Samsung SF1000£319
464 Plus Colour£275	PCW 8512£429	Amstrad FX9600T£429
6128 Plus Mono£275	PCW 9512 + ASF£439	Mitsubishi FA320£599
6128 Plus Colour£359		
Spectrum + 2 007 AP£139		

- Phone for PC's, Printers, Hardware & Software -
Prices exclude VAT, UK delivery free on orders over £200, otherwise add £5



20%

OFF

VISA

AMIGA, ATARI, PC SOFTWARE

Games,
WP,
Database,
Graphics,

DTP,
Accounts,
Spreadsheets,
Utilities

We can get virtually
any software
package
discounted so
please ask for
details.

BIGGER DISCOUNTS FOR BULK ORDERS

Call now for a full
price list

**PTA Software, 6b Brockley Cross, London
SE4 1BE Tel: 081-692-2994**

No Hidden Extras!

Kensai 80386/25 PC, VGA Colour, 60Mb HD

Includes: 5.25" Floppy, Colour Monitor, Keyboard, MS-DOS 4.0
1 Parallel and 1 Serial Port, GW Basic

Many other systems/configurations available

Call or write today for details!

£1995

+VAT

**Kensai Computers
2 Lovatt Close
Edgware
Middlesex
HA8 9XG**

Call 081-958-1440 NOW!

INCL. P&P

37p

**INC. VAT
& LABELS**

**HIGH SPECIFICATION DISKETTES
3.5" DSD DISKS
INDIVIDUALLY WRAPPED**

1+: 48p 50+: 37.5p 100+: 37p
80 Cap. boxes: 1+ £5.99 3+ £5.25 6+ £4.99

All prices include postage & packing!

Please add 1p per disk for credit card orders

Universal Overnight Distribution Ltd.

Enterprise Centre, Unit 26, James St, Carlisle, CA2 5BB.
Tel: 0228 42373 ext 53. Fax: 514484

FOR sale: Back issues of Sinclair
User going very cheap. For list write
to: B. Cassidy, 12 Cawood Sq,
Brinnington, Stockport, Cheshire.
SK5 8JS. Please enclose SAE.

BOOKS for sale for Archimedes.
Including books on Assembly
Language. Write to: B. Cassidy, 12
Cawood Sq, Brinnington, Stockport,
Cheshire, SK5 8JS. All replies
answered.

ATARI ST originals at very good
prices plus original IBM with 5.25" DV
+ 20 Meg HD. Offers: Tel: 0533
878562.

20MHZ Oscilloscope. Brand new,
boxed, complete. £250. 35Mhz,
digital storage adaptor, brand new,
boxed £300. Details call: 061 633
0824.

AMIGA A500, 1Meg, 2nd drive, 14"
Sony - Trinitron. 140 disks, 100
magazines, joysticks, etc £700 ono.
Tel: 0354 55480 (Cambs).

HARD disk, Kyocera 21M and XT
controller. WDCEN 2 plus and cables
£120 ono. Phone Simon 0734
422386 after 6pm.

ATARI 520STFM external drive,
joystick, mouse, lots of games, mag
and disks. 14 months old, boxed as
new £330. Tel: 051 608 9761.

BBC B issue 7, Microvitec, high res
colour mon, 40/80 disc drive,
educational game SWR £375. Phone
0737 551090.

MONO monitor - 12". As new, boxed
£55. Tel: (Essex) 0268 753330.

A & A SUPPLIES

Wide range of Commodore and Atari
products including Amiga Batman/Flight of
Fantasy Pack at very competitive prices

Please ring Jason for details

0908 216312

14 The Green, Newport Pagnell,
Bucks MK16 0JW

FAX: 0908 211057

24 Hour credit hotline

0908 216312

MasterCard

Access

VISA

Computallations

COMPUTER CALL-OUT SERVICE

(BIRMINGHAM ONLY)

DESKTOP PUBLISHING**LASER PRINTING**

(PROVIDE DTP/WP FILES ON DISK. MOST DTP/WP SUPPORTED)

DISK TRANSFER

(5.25" > 3.5" AND VICE VERSA 1 OFF OR BULK)

WRITE FOR INFORMATION TO THE BELOW ADDRESS

COMPUTALLATIONS

2 TWYNING ROAD, STIRCHLEY, BIRMINGHAM. B30 2XY

AMIGA PD

Top 10 Demos

Puggs in Space
Walker Demo II (1 Meg)
Cool Cougar Anim
Juggette (T.B.A.G. 41)
Flash Gordon (Queen) 2 disks
Kylie Minogue 2 disks
Millerlite TV advert
Elvira (Game demo)
Piranhas Megademo
Probe Sequence (as seen on TV)

Top 10 PD

Mobed (Sprite + Bob editor)
Marathon Mine (Boulderdash) Game
Now That's Music (5 disks, 74 tunes)
Red Devil (46 utils on one disk)
Practical Virus Killer
C Tutor Manual (3 disks)
SID (File handler)
X Copy III (disk copier)
A R P (Workbench replacement)
Power Parker V9.3 (Cruncher)

Bumper catalogue disk
only **£1.50**

or FREE with 10 or more disks

Lists 100's of disks for Amiga
Wordprocessors,
Spreadsheets, Databases,
Utilities, Games,
Music, Business, DTP, CAD,
Educational etc etc.
Amiga only

All orders normally
same day despatch
1st Class post

Full collection of 48 T.B.A.G. disks. All containing a mixture of
games, art, util, music. From the Tampa Bay, Amiga Group,
Florida, USA

Hundreds more available

Prices: 1-5 £2.50 Free 1st Class
6-10 £2.25 Post & Packing
11+ £2.00 All orders

Order now: Send Cheque PO's to:

SHERWOOD COMPUTER SYSTEMS

60A Peveril Street, Nottingham, NG7 4AH

Tel: 0602 786896

Music Writer

**The best Spectrum music
program ever written!**

FACT: Music Writer has more features than any other
Spectrum music program! Just clip the coupon for free
leaflet and see for yourself. Send to:

G. Rowland, PO Box 49, DAGENHAM RM9 5NY

Please send me free Music Writer leaflet ☐

I have a Spectrum 128 ☐ +2 ☐ +3 ☐ (please tick)

NAME:

ADDRESS:

WHOLE WIRED WORLD

A regular trip around the world with Steve Gold

EXTRA LYNX GOODIES

Atari US has released a new range of Lynx goodies, which it will display at this week's Comdex Fall show in Las Vegas. The add-ons include a \$4-95 sun visor, ■ \$19-95 large carry case and a small pouch-style carry case at \$14-95.

The sun visor is quite interesting, as it connects to the Lynx using those four mysterious holes around the screen. The large carry case is briefcase-sized and has a large compartment to hold the Lynx, plus three smaller ones to hold the accessories that most Lynx users inevitably truck around with them. Cartridges, meanwhile, can be slotted in any one of 12 slots inside the cases cover.

The pouch-style carry case is very similar to the cases which are available for the Nintendo Gameboy, with a large compartment for the Lynx itself and two smaller pouches on either side to hold the cartridges. Down the side of the pouch is an area designed to hold the Comlynx cable.

The accessories should start appearing in Atari stores by the time you read this column, but - for the out of towners - Atari is offering ■ mail order service on 0101-408-745-2367. If you ask them nicely, they might even stretch to international mail order.

ISDN RELEASED

After almost a year of beta-testing, Hayes has finally released its ISDN card adaptor for the PC in the US. The unit costs \$1,599 and supports the basic ISDN 2B Plus D standards as laid down by the CCITT international regulatory comms body.

Don't rush out and buy one just yet, however, as BT and Mercury are currently beta-testing ISDN services to selected subscribers ■ the UK, pending a roll-out of the service next February.

Even then, ISDN will only be available on voice and data calls within the UK, as the ISDN standard in Britain differs from other countries. Added to that, international ISDN data charging is expected to be very expensive in the early days. I'll stick to my high-speed modem, capable of 26,000 bps over the phone network. Coupled with Mercury's reduction in self-dialled off-peak calls ■ the US to 40 pence a minute from December 1, it's a lot cheaper than even packet switching!

BRITELITE MAC PORTABLE

When is a Mac portable not a Mac portable? Answer - when it's Sparc chip-based portable. Trigem of Korea and RDI of the US have teamed up to develop the Britelite, an 8.5 pound battery-driven portable that uses LSI's Sparc chipset ■ run at an astonishing 12.5 MIPS.

This amazing bit of kit comes with 8Mb of RAM (expandable to 16Mb on board), single floppy and a range of SCSI hard drives. A choice of two backlit mono LCD screens are available, but the machine's finishing touch is the inclusion of a PC and Apple Mac emulation package within the firmware.

DOS emulation is no big deal, as it's been seen on other Sparc - driven machines. Mac emulation? That's a newie. According to RDI's San Diego headquarters, the emulation includes Mac ROM code in software but without breaking Apple's copyright rules. The company claims that the Britelite is 100

per cent Mac compatible. Pricing? Don't expect much change from \$7,000 for a basic machine, rising to \$10,000 for a full-blown turbo-nutter version.

TOSHIBA'S NEW TRIO

Toshiba will announce three new portable PCs at Comdex Fall this week - the T3200SXC, the T2000SX and the T1000LE.

The T3200SXC is based around a 20MHz 386SX microprocessor, driving a 10 inch active matrix colour display capable of VGA graphics resolution. Kitted out with 1Mb of RAM and a 20Mb hard disk, the machine ships from next March at \$9,999 in the US.

Closer to sensible pricing, the T2000SX is based around a 16MHz 386SX microprocessor. The 7-pound portable is the first portable from anyone that runs on Nickel Hydride batteries, which offer faster charging and longer life than conventional ni-cad batteries. The \$4,999 portable is available immediately in the US with a mono VGA screen plus 20Mb hard disk. Pushing the disk capacity to 40MB adds \$500 to the price.

In the notebook stakes, the 80C86-based T1000LE is a 6.5-pound 'notebook' system which comes with a 20-Mb hard disk and single floppy drive. The machine, also available immediately in the US, costs \$2,499.

NEW LYNX CARTRIDGES

Atari Japan seems to be using the Japanese domestic market as a test-bed for new releases for the Lynx games system. New titles already out include: *Roadblaster*, *Upshot* (formerly code-named *3D Barrage*) and *Xenophobe*. Scheduled for release this week are *Klax*, *Paperboy*, *Rampage*, *Rygar* and *Zarlor Mercenary*, while upcoming for Christmas are *APB*, *NFL Football* and *Word Cup Soccer*.

Early next year releases include: *Chequered Flag*, *Grid Runner*, *Ninja Garden*, *Scrapyard Dog*, *Tournament Cyberball*, *Vindicators* and *Warbirds*. Of the four new releases out in October, *Xenophobe* is reported to be the most popular. The \$34-95 cartridge involves travelling through space shooting at space stations and moonbases filled with aliens that have invaded them. As with the arcade version of *Xenophobe*, there are nine bases to clear of the aliens, with each base having different floors and levels. Sounds like fun!

ATARI SCORES IN USSR

Atari seems to have done the business quite conclusively in Russia. Reports from behind the iron curtain say that the Tramiels have secured one of the biggest computer deals with the Soviets, involving STs and PCs, plus sackfuls of software.

Apparently, the Youth Centre of Eriwan has signed a deal with Atari worth a lot of money for Atari hardware at knock-down prices along with all the necessary peripherals and software. The systems will be used at the regional youth centre to train youngsters how to use computers effectively.

Two thirds of the shipment - expected to be the first of several to the USSR - consists of early 520 ST systems, while the rest is a mixture of Atari PCs and peripherals. This isn't the first time that Atari STs have been sold behind the iron curtain. At this year's Cebit Faire in Hannover, West Germany (March 1990) I bumped into Mark Muchnick of the Global Development Corporation from San Francisco. Muchnick told me that he was working on getting Cocom permission to export ST technology to Russia. Since this deal involves such technology, I presume he succeeded in persuading everyone to allow the ST to ■ imported in Russia where, incidentally, I gather the Commodore Amiga is still on the 'hot list' as regards Cocom technology.

COMPILE AMIGA SOFTWARE

Amiga owners will be pleased to hear that demonstration copies of a new Amiga compiler package are starting to appear on the US on-line systems, as well as a number of European BBSs. The compiler is called Oberon, with version 1.16 available in the public domain. The commercial version - v2.0 - is, expected to be launched very shortly.

Oberon is the latest invention from Professor Nick Wirth of ETH Zurich in Switzerland. The package is, in fact, a compiler for a new language also called Oberon. The development of the language stems from a project to improve the performance and to reduce the complexity of the language Modula-2.

According to Wirth, the concept of type extension has been added to Oberon, providing object-oriented programming facilities comparable to those seen in Smalltalk and C++. At the same time, Oberon retains the notational conventions of Modula-2 and Pascal, claims Wirth. What's more, it also does it in one pass.

According to Wirth, Oberon's compiler can be used to develop small and large modula-type programs. Code reuse based on modular libraries is supported via the object-oriented features of the language, and any object previously defined can easily be adapted to new problems, he said.

The demo version, I gather, is fully-functional, except that it is deliberately limited to compiling short programs, as well as a few long programs which are supplied with the demonstration disk.

The full version - at a price to be decided - will be available from A & L, Im Dderez 61, CH-2540 Grenchen, Switzerland. Pricing however has yet to be confirmed. ■

AMIGA SYSTEMS

UNREPEATABLE CHRISTMAS SPECIALS!

LATEST AMIGA 2000 WITH 1084S	£1695.95	£999.95 Inc
VIDI AMIGA (PAL)	£114.95	£89.95 Inc
RENDALE 8802 GENLOCK	£299.95	£169.95 Inc
STAR LC10 MONO	£199.95	£139.95 Inc
STAR LC10 COLOUR	£299.95	£199.95 Inc
3.5" FLOPPY DRIVES WITH		
SWITCH & PASSTHROUGH	£99.95	£59.95 Inc
1084S COLOUR MONITOR	£299.95	£225.95 Inc
HITACHI HI-RES MONO CAMERA	£286.95	£189.95 Inc
XT-BRIDGE BOARD	£399.95	£199.95 Inc
4 WAY PARALLEL SWITCH BOX	£59.95	£29.95 Inc
COMIC SETTER	£49.95	£29.95 Inc
PAGESTREAM DTP	£199.95	£109.95 Inc
PROFESSIONAL DRAW	£139.95	£69.95 Inc

PLUS - RECONDITIONED SECOND HAND
AMIGA 2000S FROM **£599.00** Inc.

RECONDITIONED 1084 MONITORS
FROM **£149.95** Inc

WIDE RANGE OF AMIGA SOFTWARE AT
SILLY PRICES E.G.

THE AMAZING REALTHINGS (HORSES)
AN IDEAL CHRISTMAS GIFT
NORMALLY £24.95 NOW ONLY **£7.95!**

CANDO - MULTIMEDIA AT ITS BEST
NORMALLY £149.95 NOW ONLY **£89.95**

AND LOTS MORE - HARDS DRIVES, CABLES, PLUGS, CONTROLLERS ETC.

**AMIGA SYSTEMS
RAVENSWOOD
THE SHIRES
HEDGE END
HAMPSHIRE
SO3 4BA
TEL: 0489 78 78 68**

Access/Mastercard/Visa/Eurocard No:

Expiry Date:

All Cheques/Postal Orders etc. to be
made payable to: Amiga Systems

Add £1.00 for
Postage & Packing

Name:

Address:



ATARI ST ★ ATARI ST ★ ATARI ST ★ ATARI ST ★ ATARI

A brilliant offer for readers of New Computer Express!

Devpac ST 2

FROM HISOFT ONLY £44.95

Devpac ST Version 2 is widely regarded as the most
powerful assembly language development system for the
Atari ST. It incorporates a debugger, stand-alone assembler
and a fast linker

IT INCLUDES:

- **GenST** Assembler is a high-performance, full-featured, two-pass Motorola standard macro assembler at up to 75,000 lines per minute. It has multiple modules and sections, repeat loops and macro calls that maybe nested as deeply as memory allows.
- **MonST** Debugger is an advanced symbolic monitor, debugger and disassembler. Now in addition it can offer Multiple window display, full expression evaluator, up to 22 significant characters in symbols, viewing of source files and conditional breakpoints.
- **Example Files** of a wide variety including a full GEM type windowing application and an example desk accessory.

The package comes complete with an extensive ring-bound manual plus notes on the various operating system levels and debugging strategies.

Order now by phone from the NCE mail order service or
send the coupon to our FREEPOST address.

HOTLINE NUMBER 0458 74011

DevpacST 2
version 2

Complete Assembler/Debugger System
for the Atari ST Computers

**SAVE
£15**

Yes, I would like to order a copy of
Devpac ST 2

Name:

Address:

Tel No:

I would like to pay by Access Visa
Cheque PO

Please debit my credit card

No:

Expiry Date:

Tel. No:

Send & make cheques payable to
Future Publishing, FREEPOST, The Old
Barn, SOMERTON, Somerset. TA11 7BR

BEST EVER AMIGA SPECIALS



From SoftCentres A500 SCREEN GEMS PACK

5 TOP CHART GAMES

Football Manager World Cup Edition - Gravity
Theme Park Adventure - Chambers of Shaolin - Space Harrier II

10 OTHER GAMES

Stoneage - COS - Othello - Crystal Vision - Battlemech
Superbreakout - Egyptian Run - Bullrun - Hack - Q-Bert

JOYSTICK & MOUSE MAT

£399.99

ALSO AVAILABLE: CLASS OF THE 90'S FIRST STEPS
INCLUDING ALL ABOVE EXTRAS - £579.99

Inc VAT & Delivery from:

SoftCentre Oswestry, 24 Beatrice Street,
Oswestry, Shropshire SY11 1QG

SoftCentre Shrewsbury, 15 Greendragon Lane, Victorian
Arcade, Mardol, Shrewsbury SY1 1PS



SUBJECT TO AVAILABILITY

VISA

The more observant among you may have noticed that we had a couple of technical hitches with the questionnaires we printed in the last couple of issues.

So here we are, The *Express* Questionnaire mark three. As an extra incentive, we're now offering a £100 cash prize for the best suggestion in Section Five for a really cool *Express* feature. For the runners up we are giving away five free subscriptions. But that's not all; the winners of the *Express* subscriptions also win a year's copies of the *Future* magazine of their choice – select from *Amiga Format*, *ST Format*, *PC Plus*, *Commodore Format*, *Your Sinclair*, *S* and *Amstrad Action*.

To have a chance of winning you'll need to get your questionnaire back to us by December 1. Send it in an envelope marked 'Express Questionnaire' to *New Computer Express*, 30 Monmouth Street, Bath, Avon BA1 2BW.

If you have already sent in a questionnaire your entry will automatically be included in the £100 competition – please don't send in another form.

SECTION ONE: HARDWARE

What machine do you use the most at home?

Amiga 500
Other Amiga
ST
STE
Desktop PC
Laptop PC
Archimedes
CPC
Spectrum
C64
Console
Macintosh

Other (specify).....

What machine do you use the most at work/college?

Amiga 500
Other Amiga
ST
STE
Desktop PC
Laptop PC
Archimedes
CPC
Spectrum
C64
Macintosh
Mini/mainframe

Other (specify).....

What other machines do you have at home?

Amiga 500
Other Amiga
ST
STE
Desktop PC
Laptop PC
Archimedes
CPC
Spectrum
C64
Macintosh
MSX
BBC Micro
PCW
Atari 8-bit
Console

Other (specify).....

WIN £100 IN HARD ECUs

Well, until the Europeans agree to print them would you settle for hard cash? All you have to do to is fill in this revealing questionnaire and come up with a really whacky idea for an article in *Express*...

What other machines do you use at work/college?

Amiga 500
Other Amiga
ST
STE
Desktop PC
Laptop PC
Archimedes
CPC
Spectrum
C64
Macintosh
Mini/mainframe

Other (specify).....

How long have you owned your computer?

Less than three months
Three months to a year
One to three years
Over 3 years

What peripherals do you own?

Monitor
Hard disk
Extra floppy drive
Modem
Printer
Memory expansion
Scanner/digitiser
Sampler/MIDI
Multiface/Action Replay
Joystick

What peripherals do you intend to buy in the next year?

Monitor
Hard disk
Extra floppy drive
Modem
Printer
Memory expansion
Scanner/digitiser
Sampler/MIDI
Multiface/Action Replay
Joystick

How much did you spend on hardware last year/last two months?

Less than £50
£50-£150

£150-£300
Over £300

How often do you buy goods mail order?

Regularly
Sometimes
Never

How many times have you bought through *Express* advertisements?

How do you buy your hardware? (tick ☐ used in the last year)

Independent retailer
High Street store (Dixons etc)
Mail Order
Auctions
Classified advertisements

How much do you expect to spend next year/next two months?

Two months Year
Less than £50
£50-£150
£150-£300
Over £300

Are you responsible for computer buying decisions at work?

Yes
No

Do you intend to buy a new computer in the next year? If so, what?

No computer
Amiga 500
Other Amiga
ST
STE
Desktop PC
Laptop PC
Archimedes
CPC
Spectrum
C64
Macintosh
Console

Other (specify).....

In an ideal world, which of these computers would you most like to own?

Amiga 500
Other Amiga
ST

STE
Desktop PC
Laptop PC
Archimedes
CPC
Spectrum
C64
Macintosh
NeXT

Other (specify).....

SECTION TWO: SOFTWARE

What do you use your computer for at home?

Main use ☐ Sometimes ☐

Games
Word processing
Spreadsheet/accounts
DTP
Graphics
Music
Education
Programming
Comms

What do you mainly use your computer for at work/college?

Main use ☐ Sometimes ☐

Games
Word processing
Spreadsheet/accounts
DTP
Graphics
Music
Education
Programming
Comms

How much have you spent on games in the last year/last two months?

Two months ☐ Year ☐

Less than £50
£50-£150
£150-£300
Over £300

How do you buy your games? (tick all used in the last year)

Independent retailer
High Street store (Dixons etc)
Mail Order
Dodgy street markets
Classified advertisements

How much do you expect to spend next year/next two months on 'serious' software?

Two months ☐ Year ☐

Less than £50
£50-£150
£150-£300
Over £300

How do you buy your 'serious' software? (tick all used in the last year)

Independent retailer
High Street store (Dixons etc)
Mail Order
Classified advertisements

Do you use PD libraries?

Yes ☐
No ☐

SECTION THREE: MAGAZINES

How long have you been reading NCE?

This is the first issue bought
A few months
A year or so
Since the beginning

How regularly do you buy NCE?

Subscriber
Every week
Two or three times a month
Once a month
Occasionally

What was your favourite article in this issue?

Rate the following sections of Express out of 10

News
FrontEnd
The Week in View
Hardware reviews
Software reviews
Feature articles
Games Week
Competitions
Machine-specific columns
Express mail
Centrefold
Programming
Circuit City
Tech Tips
PD Column
Console Zone
Whole Wired World
Express On-line
Reader advertisements
Recruitment advertisements

Which sections would you like to see more or less of?

More ☐ Less ☐

News
FrontEnd
The Week in View
Hardware reviews
Software reviews
Feature articles
Games Week
Competitions
Machine-specific columns
Express mail
Centrefold
Circuit City
Tech Tips
Programming
PD Column
Console Zone
Whole Wired World
Express On-line
Reader advertisements
Recruitment advertisements

What other magazines do you read apart from Express?

Amiga Format
ST Format
PC Plus
Amstrad Action
Commodore Format
Your Sinclair

ACE
The One
Zero
Raze
Personal Computer World
Byte
What Personal Computer?
Popular Computing Weekly (sorry, bad joke)

What do you like about them compared to Express?

SECTION FOUR: ABOUT YOU

All personal details will be treated in confidence.

Are you male or female?

Male ☐
Female ☐

How old are you?

Under 13
13-18
17-25
26-35
36-50
Over 50

What is your job?

How much do you earn?

Nothing
Student grant
£5,000-£8,000
£8,001-£10,000
£10,001-£15,000
Over £15,000

What county do you live in?

SECTION FIVE: PRIZE COMPETITION

My suggestion for a really good article in Express is (max 50 words)

Name

Address

If I win a runners-up prize I would like a subscription to New Computer Express and:

ST Format
Amiga Format
PC Plus
Amstrad Action
Your Sinclair
Commodore Format
Sega Power

MAIL ORDER

0908 564369

Amiga A500 Screen Gems Pack £379 inc VAT & Next day Courier

Screen Gems Pack includes:

Amiga 500 512K keyboard with built in 1 Meg disk drive • Free TV Modulator worth £24.99 allowing you to use the Amiga with a normal TV • Joystick, mouse mat + 10 blank disks, mouse + mains plug • Amiga basic, Amiga extra's 13 workbench 13 PLUS Amiga step by step tutorial • With a further four new releases • Shadow Beast II, Back to the Future II, Nightbreed and Days of Thunder

Amiga A500 Screen Gems Pack Extra £399 inc VAT & Next day Courier

Screen Gems Pack includes:

Amiga 500 512K keyboard with built in 1 Meg disk drive • Free TV Modulator worth £24.99 allowing you to use the Amiga with a normal TV • 10 free games PLUS software has a potential RRP of £200 • Joystick, mouse mat + 10 blank disks, mouse + mains plug • Amiga basic, Amiga extra's 13 workbench 13 PLUS Amiga step by step tutorial • With a further four new releases • Shadow Beast II, Back to the Future II, Nightbreed and Days of Thunder

Amiga 1500

The Amiga 1500 Personal Home Computer is the ultimate in Personal Home Computers for the whole family. Platinum works - integrated - Word Processor, Database and spreadsheet. Deluxe Paint 3 - the ultimate in paint packages. Populous and Sim City - State of the Art strategy games. Battlechess - the chess programme amongst all chess programmes. Their Finest Hour - The battle of Britain brought to life in a technical flight sim. A1084's stereo colour monitor to get the best from your Amiga. The Amiga 1500 has been designed around the already popular Amiga A500, but with hardware facilities that would put any mid range business machine to shame. Please call for further details
£1049.00 inc VAT + next day courier service.

AMIGA A500 CLASS OF THE 1990's BUSINESS + EDUCATIONAL PACK £499.00 inc VAT & next day courier

FEATURES

Amiga A500 TV Modulator • Midi Interface-Software • Kind Words II wordproc'or • Page Setter DTP • Super Base Personal Database • Maxplan 500 spreadsheet • Amiga Logo BBC Emulator Deluxe Paint II • Mouse mat 10 Blank Disks and disk wallet

AMIGA A500 SOUND & VISION PACK £399 inc VAT & next day courier

Bat Games Pack includes: 10 free games inc Blasteroids, Wizball, Menace, Buggy Boy • Amiga A500 512K keyboard with built in 1 Megabyte Disk Drive. • Free TV Modulator worth £24.99 allowing you to use the Amiga with a normal TV • Deluxe Paint 11 Graphics Package • Shadow of Beast II horizontal scrolling games software • Back to the future film action software • Nightbreed state of the art graphical arcade action • Free joystick, mouse mat and 10 blank disks • Amiga Basic Amiga Extras 1.3 Workbench 1.3 PLUS the Amiga Step by Step Tutorial • All leads manuals PLUS Mouse and Mainsplug • PLUS Days of Thunder serious fast action games software

HALF MEGS - Quality four chip ram board with complete utility disk support with software on/off switch. **£34.99**

AMIGA + ST DRIVES - A powerful 880K formatted drive with an external on/off switch, anti clicking and daisy chain facility. **£59.99**

MONITORS

Commodore Amiga A1084 Stereo Monitor inc lead.....£269.00

Phillips CM8833 stereo colour monitor inc lead for ST or Amiga.....£259.00

4096 coloured stereo monitor with first class reproduction including leads for ST & Amiga.....£259.00

Naksha Mouse - Quality micro switched, accurate Amiga ST OR Amstrad PC Mouse **£26.00**

Contriver Mouse - The perfect direct replacement mouse for the ST or Amiga **£18.00**

PRINTERS

Star LC24 1024 Pin incl lead ST/Amiga.....£249.00

Star LC10 including lead for ST/Amiga.....£169.00

Star LC10 colour including interface lead for ST/Amiga.....£219.00

LC10 - The most popular letter quality printer on the market only £219.00 with all Amiga + ST leads

Tel: 0908 564369, Fax: 0908 560040

MICROSMART 24HR HOTLINE (24 HRS) TELEPHONE 0908 564369

TITLE	COMP	PRICE
TOTAL COST £:		

Have you ordered from us before? YES NO

NAME:

ADDRESS:.....

.....

.....

TEL NO:

Please send this to Microsmart, 125 High Street, Stony Stratford, Milton Keynes. MK11 1AT

EXPRESS ON-LINE

Your weekly guide to the hundreds of bulletin boards and user groups now on three pages. This week's featured bulletin board is CIX. And if you run a board, don't forget to write!

● USER GROUPS

AMIGA DISK FANZINE. Packed with info, reviews, art sections and loads of PD software. Send £2 to the following address for volume 1: PAul Harthen, 43 boyds Walk, Dukinfield, Cheshire SK16 4AX

ATARI ALL MACHINES. Includes Sigatari. Contact Colin Hunt, BaPAUG, Wimborne Road, Oakdale, Dorset BH15 3EF

ATARI ST RESURRECTION SOCIETY.
For non-working Atari STs or any other
related ST equipment. Specialising in
botched and blown memory upgrades.
For more information simply call 0495
272092

APPLE SYSTEMS. Irene Flaxman, Apple 2000, PO Box 3, Liverpool L21 8PY. Was previously named BASUG. Write in for local groups, newsletter, BBS and others.

APPLE II USERS. Join Apple 2000. The national user group for Apple II users, with monthly publications, bulletin boards, local groups, meetings, problem helpline and more. If interested ring 051 9284142 for details.

BURNAMS PD. Amiga PD only 40p a disk. For a catalogue, send a blank disk and sae to Burnams PD, 41 Pinner Park Gardens, Harrow, Middx, HA2 6LQ

C USER GROUP. Bi-monthly journal and bulletin board. Open to all C users. Ring 0865 246490.

CHESHIRE NIMBUS USER GROUP.
Contact Geoff Nelder, Queens Park
High School, Handbridge, Chester CH4
7AF

C64 PUBLIC DOMAIN. Demos, music and utilities. Fast, reliable service dedicated to tape-only PD. Send sae to Phoenix, 64 Plumberow, Basildon, Essex.

DATAEASE USER GROUP. High-Tech House, 10 Blackfriars Street, Norwich, NR3 1SJ

EXMOORE SOFTWARE. Public domain and shareware library for the St with a difference. Manual sent with each disk. See to Exmoor Software, Queen Street, Lynton, ■ Devon EX 35 6AQ

C 64 PD CLUB. Demos, games, music, utilities. see for list or £2.50 PQ (for disk/tape) to E Masaba, 84 Garmoyle Rd, Liverpool L15 3JH

MEMOTECH FILE. User group for Memotech owners. £6 a year. Sae to 93b St Johns Road, Biddulph, Staffs ST8 6JJ

MIDI/MUSIC. Spectrum music machine/MIDI user group. Magazine on tape, plus programs and lots more. For more details contact Sean Sanderson on 05242 62258

MID CORNWALL COMPUTER CO-OP.
Atari ST. 8 Victoria road, Roche, St
Austel, Cornwall PL 26 8JF. 0726
890473

NW ARCHIMEDES USER GROUP.
Meets every Friday at Citizens Advice
Bureau, next to Spectrum arena in
Birchwood, Warrington. Ring Paul on
051-426 3915 after 6.

PUBLIC DOMAIN. Amiga disk fanzine specialising in public domain. Write, with sae, to Chris Jackman, 3 Albion Terrace, Lexham Road, Litcham, Kings Lynn, Norfolk, PE32 2QQ

SHARP USERS CLUB. The only one left for full support. Covers all models. If interested, contact Andrew Ferguson, 11 Harcourt Close, Henley-on-Thames, Oxon RG9 1UZ. Telephone: 0491 574850 evenings only.

SOLITUDE MOUNTAIN. Friendly new Amiga user group. Offers free PD, competitions etc. Blank disk or 50p to 565 Heathway, Dagenham, Essex RM9 5AZ

SOUTHERN AND DISTRICT. PC and ST user group. Tony Lowes 61A Broadway West, Leigh on Sea, Essex S59 2BX

STEN. The ST enthusiasts newsletter. Send a disk and an sae for a copy to Dave Mooney, 14 School Rd, Morningside, Newmains, Lanarkshire.

SYNCROSOFT. Exclusive 64 computer information. Hardfacts, trouble shoots, pocket book. £2.95 to join, including p&p. Make cheques to Syncrosoft and send them to 9-10 Morland Gdns, Southall, Middx UB1 3DY

TANDY/MSDOS Roger Storrs,
NATGUG Oakfield Ldge, Ram Hill,
Coalpit Heath, Bristol BS12 2TY.
0454 772 920

THUNDERNEWS. CBM 64 user magazine on disk/tape. Send sae for details and competition to Thunderscrews, 159 Hough road, Wallsall, West Midlands WS2 9BG.

TIUGUK. T199/4A user group UK for S/W on disk, tape and module. Offers magazine and help. Write with SAE for more details to Peter Walker, 24 Bacons Drive, Cuffley, Potters Bar, Herts EN6

UNITED AMSTRAD USER GROUP. Help and advice for CPC owners. Also there is a bi-monthly magazine. Free PD library with over 30 disks, book library. Software and hardware discounts. If interested contact Tony Baker 26 Uplands Crescent, Fareham, Hants.

ACORN ARCHIMEDES.RISC user.117
Hatfield Road, St Albans, Herts AL1 1EX

ACORN ARCHIMEDES Archive, 1 Mile
End Road, Norwich NR4 7Q

APPLE MACINTOSH. John Lewis,
Macintosh user group, Macintosh House,
11 South Parade, Summertown, Oxford
OX2 7JL

AMATEUR RADIO (CBM) · Simon Lewis
GM4PLM Commodore Radio Users Gp, 69
Irvine Drive, North Clippens, Linwood,
Paisley PA3 3TB

AMATEUR RADIO 9COMMS0 - If interested contact Pat & John Beedie
GW6MOJ/MOK BARTG Ffynnonias
Salem, Llandeilo, Wales SA19 7NP. 0558
822 286 MBX 558 822 286

AMIGA PUBLIC DOMAIN. Amiga disk
fanzine specialising in pd. Send sae for
details to Chris Jackman, 3 Albion Terrace,
Lexham Road, Litcham, Kings Lynn,
Norfolk

Get yourself listed!

If you run a user group or bulletin board, don't miss out – fill in the form for a free entry today!

Address:

User group/Bulletin board (delete as applicable) Specialisation

m. Kings Lynn, Norfolk E32 2QQ.

AMSTRAD BUSINESS USRS - Amstrad Professional User Club, enterprise House PO BOX 10, Roper St, Pallion Ind Estate, Sunderland SR4 6SN. 091-510 8787

AMSTRAD CPC USERS - Tony Baker, United Amstrad User Gp, 26 Uplands Crescent, Fareham, Hants PO16 7JY 0329 234 291

AMST. CPC HOME USERS - Steve Williams, WACCI, 9 South Close, Twickenham TW2 5JE. 081-898 1090

AMSTRAD LOCAL GROUPS - Amstrad Groups Federation, 4 Sutton Road, Gorton, Manchester M18 7PN

AMSTRAD PC SOFTWARE - Colin Smith, COLBAR, 10 Penwood cl, Westbury, Wilts BA13 3LW

AMSTRAD PCW - PD software: Bob Ellis 0432 761860 Queries: David Axford 0428 56438

AMSTRAD PCW - Bob Ellis "Rowan" 100 St Peters Close, Moreton-on-Lugg, Hereford HR4 8DW. 0432 761 860

AMSTRAD CPC HOME USERS - Steve Williams, WACCI, 9 South Close, Twickenham TW2 5JE. 081-898 1090

AMSTRAD 1512/1640/PPC - PC Independent User Group, The Computer Advice Centre 87 High Street, Tonbridge, Kent TN9 1RX 0732 771 512

AMSTRAD BUSINESS USERS - Amstrad Professional User Club, enterprise House PO BOX 10, Roper St, Pallion Ind Estate, Sunderland SR4 6SN. 091-510 8787

AMSTRAD LOCAL GROUPS - Amstrad Groups Federation, 4 Sutton Road, Gorton, Manchester M18 7PN

AMSTRAD PCW - Bob Ellis "Rowan" 100 St Peters Close, Moreton-on-Lugg, Hereford HR4 8DW. 0432 761 860

ARABIC COMPUTING - Rich Lackey, Arabits, 9 Bellview road, Worthing, West Sussex BN13 1EY **ARABIC COMPUTING** - Rich Lackey, Arabits, 9 Bellview road, Worthing, West Sussex BN13 1EY

ASHTON TATE SOFTWARE - Silvia Robinson, Baseline, Ashton-Tate, 1 Bath Road, Maidenhead, Berks 0628 33 123. Prestel page 43221

ATARI PORTFOLIO - D Gilpin, Atari Portfolio User Group, 84 Cambridge Avenue, Gidea Park, Romford RM2 6QU. 0708 730764

ATARI ST SOFTWARE - 16/32 PD library 35 Northcote Road, Strood, Kent ME2 2OH

ATARI ST - Paul Glover, The ST Club, 9 Sutton Place, 49 Stoney Street, Nottingham NG1 1LX. 0602 410241.

BBC MICRO - BEEBUG, 117 Hatfield Road, St Albans, Herts AL1 4JS. 0727 40303.

C LANGUAGE - Martin Houston CUG (UK) Houston Technology Ltd, 14 Arden Oak Rd, Sheldon Birmingham BS26 3LX 021-722 3168

CAMBRIDGE Z88 - Roy Woodward, Z88 Owners' Club, 68 Wellington St, Long Eaton, Nottingham NG10 4NG

CD ROM - UK CD-ROM User Group, High Wings, Salem, Treflorys, Aberlawe SA6 1XX 0792 844 370

CHOICE on-line help. Telephone: 0308 23224 7-9 AM only for now.

CHURCH ADMINISTRATION - Rev Stoker Wilson, Church Computer User Gp, St John's Vicarage, Greenside, Ryton, Tyne & Wear NE40 4AA. 091-413 8281

COBOL LANGUAGE - Allen Reavie 22 Mourneview St, Portladow, Northern Ireland. BT62 3AW.

COMPUNET - Independent Compunet Club, 148 Furzehill road, Boreham Wood Herts.

DATAEASE - Dataease User Group Hi-tech House, 10 Blackfriars St, Norwich NR3 1SF 0603 762 806

ECONET - Michael Ryan, Econet User Gp, Balkeerie Cottage, Eassie by Forfar, Angus DD8 1SR

ENET (like econet) - T K Boyd, Enet (Amcom) User Gp, Seaford Cottage, Petworth, West Sussex GU28 0NB

COLECO ADAM - Keith Mamer, UKAS 33 Homer Road, Croydon CX0 7SB

COMMODORE ALL MICROS - Jack Cohen, ICPU 30 Brancaster Road, Newbury Park, Ilford IG2 7EP 081-346 0050 home: 081 579 1229 day.

COMMODORE AMIGA - UK Amiga Users Group. Contact 144 Charles Street, Leicester LE2 0OD. 0533 510066 voice; 0533 517615

CLARGY/MEDICAL EDUCATN - Mr T Jones, FREE-ED Shareware/PD 85 Stoke road, Taunton, Somerset TA1 3EL. 0823 321 481

COMMUNITY COMPUTING - Community Computing Network 2nd Floor, 35 Pink Lane, Newcastle, NE1 5DW 091-261 0317

COMPU CORP. CompuCorp University users group c/o CompuCorp, Cunningham House, Westfield Lan, Kenton, Middx

COMPUNET - Independent Compunet Club, 148 Furzehill road, Boreham Wood Herts. WD6 2DX

CONFERENCING - Compulink, suite 2, The Scantuary, 23 Oakhill Grove, Surbiton, Surrey KT6 6DU Voice 081-390 8446 CIX BBS 081-399 5252

CPM & MSDOS USERS - Nicholas Higgins CPM & MSDOS Users Group, 42 Birkbeck Road, Wimbeldon, London SW19 9NZ. 081-543 0824

CRYPTOGRAPHY & CODES - Mike Barlow, American Cryptogram Association 5052 Chestnut Avenue Pierrefonds, Quebec HB2 2A8 Canada

DISABLED - Jeff Hughes, Special Needs User Gp, 39 Eccleston Gardens, St Helens WA10 3BJ 0744 24608

DRAGON - Paul Grade, National Dragon Users Group, 11 Navarino Road, Worthing, Sussex 0903 207585.

ECONET - Michael Ryan, Econet User Gp, Balkeerie Cottage, Eassie by Forfar, Angus DD8 1SR

EDUCATION - Charles Shannon, TECUG, 35 Wellington St, Gravesend, Kent DA12 1JG. 0474 567 931

EIGHT -BIT BACK-UP 8-bit user group for all. 25p plus sae to: 8-bit back-up. 1 Northolme Close, Grays, Essex.

EINSTEIN - Graham Bettany, UKEUG 80 Dares Road, Ipswich IP1 4JR

EMULATE For Amiga, Amex. With monthly newsletter. Write to Pat 12b Northbrooks, Halrow, N Essex

ENTERPRISE - Tim Box, Independent Enterprise User Group, 50 Holdenhurst Avenue, Finchley, London N12 0HX. 081-346 8032

FLIGHT SIMULATOR (MSDOS) - Alan Hawkins, SIMFLY Club 2 Henley Manor Raincliffe Ave, Scarborough YO12 5BU

FORTH Language - Douglas Neale, FIG (Forth Interest Group) UK, 58 Woodland Way, Morden, Surrey SM4 4DS.

FRACTALS/CHAOS THEORY - Andy Lunness, 69 Bronte Avenue, Bury, Lancs BL9 9RN. 061-764 6469

GENEALOGISTS - Computer Group, Society of Genealogists, 14 Charterhouse Buildings, London EC1M 7BA. 071-251 8799.

GENERAL HOME MICROS - Steve Winter, Chic Computer Club, PO BOX 121, Gerrards Cross, Bucks SL9 9JP 0753 884473

GUAGE - Martin Houston CUG (UK) Houston Technology Ltd, 14 Arden Oak Rd, Sheldon Birmingham BS26 3LX 021-722 3168

HITACHI MBE 16002 PC - Bruce Ange HICUPS 16 Nine Acres Road, Cuxton, Kent ME2 1EL. 0634 715759

HOUSING ASSOCIATIONS - Caroline Maries, Micro Users Ltd, Beaver Housing society, 23 Lewisham High Street, London SE13 5AF. 081-318 1126

HEALTH WORKERS - Sue McKendrick, Healthlink, 164 Windsor Rd, Ashton-in-Makerfield, Wigan WN4 9ES. Voice: 0942 712 385

IBM PC - The IBM PC User Group PO BOX 360 Harrow HA1 4LQ. 081-863 1191 BBS 081-863 6646

JUPITER ACE - John Charter, Jupiter Ace Forth User Group, 17 Spring Wood Close, Dunston, Chesterfield S41 8BS. 0246 237555 SAE

FIND YOUR LOCAL CLUB - John Dale, Banc y rhydyn, 14 Bron Y Glyn, Bronwydd Arms, Camarthen SA33 6JB. 0267 230 771

LOCAL AUTHORITIES - Local Authority Micro User Gp, John New, Borough Engineer's Dept, Municipal Offices, North Quay, Weymouth, Dorset DT4 8TA. 0305 785101 x272

LOTUS PRODUCTS - Lotus User Group, 79-80 Peascod St, Windsor, Berks SL4 1DH. 0753 841686

LYNX - R B Jones, Lynx User Group, 39 Ashton Close, Needingworth, St Ives, Cambs

LYNX DISK USER GROUP, J Koushappas, 172 Pasteur Gdns, London N18. Tel: 081 807 3859

MEMOTECH - Phil Eyres - Memotech Owners Club, 23 Denmead Road, Harefield, Southampton SO2 5GS. 0703 585106

MICROSOFT WORD - Lesley Port, Microsoft Word User Group, Folly House, Madeira Walk, Bachelors Acre, Windsor, Berks SL4 1EU. 0753 831001

MOTOROLA 68xxx MICROS - Rick Applegate, 68 Microgroup, 11 Great Cob, Springfield, Chelmsford, Essex. BBS 081-316 7402

MSX SYSTEMS - Keith Neal, MSX Link, Austerby House, 80 Austerby, Bourne, Lincs PE10 9JL

NASCOM/80-BUS/CPM - Scorpio Systems, PO BOX 286, AYLESBURY, BUCKS HP22 6PU. 0296 624868

NEUBRAIN - Ron Bury, NewBrain Support Gp, 70 Cranberry Lane, Darwen, Lancs BB3 2HL 0254 771891

NIMBUS/RM AX/VX - Dr Martin Hatfield NIMBUG, 11 Belle Vue Ave, Gosforth, Newcastle-upon-Tyne NE3 1AH 091-285 7806

NORTHSTAR - Brian Haines, North Star & CP/M Gp, 9a Sharpleshall St, London NW1 8YN.

PHILOSOPHY APPLE - G Haines, Chinese Room Club, 43 Cornwallis Gdns, Hastings, East Sussex TN34 1LX. 0424 714 102

PICK OPERATING SYSTEM - Hugh Kellit, UK Pick Users Assocn, PO BOX 907, London N10 2SB. 081-462 4666

OS/2 - Karen Burns, OS/2 User Group, Cecily Hill Castle, Cirencester, Glos LG7 2EF 0285 655 888

OSBORNE/CPM/MSDOS - Jeremy Browne BOOG, 102a Aldershot Road, Fleet, Hants GU13 9NY. 0252 621745 voice. 626233 BBS

PC SOFTWARE - PC Serve, 1147 Greenford Rd, Greenford, Middx UB6 0DP 081-864 2611, BBS 081-864 2633

PICK OPERATING SYSTEM - Hugh Kellit, UK Pick Users Assocn, PO BOX 907, London N10 2SB. 081-462 4666

PRESTEL - Andy Leeder, ClubSpot 810, Church Farm, Stratton St Michael, Norwich NRQ15 2QB

PSION ORGANISER - Mike O'Regan, IPSO, 130 Stapleford Ln, Beeston, Nottingham NG9 6GB. 0602 735482

QUANTA. QL users and tinkers. Call 0933 460690

RESEARCH MACHINES - Steve Rochford RM National User Group, George Stephenson High School, Southgate, Killingworth, Newcastle NE12 0SA. 091-268 2002

REVELATION (PICK) - Malcolm Frame UK Revelation User Gp, 136 St Albans Road, Watford WD2 4AE. 0923 35515

R:BASE - Mrs Tansy Beal, R:Base User Group c/o Room A2044 BBC Woodlands, 80 Woods Lane, London, W12 0TT. 081-576 7187

SANYO MBC-550 - H Syed, Wistaria, 53 Acacia Grove, New Malden, Surrey KT3 3BP. 081-942 9009

SERVICES USERS - Sqn Ldr G Howson, Services Personal Computer Association, Stik Eng 15a HQSTC RAF High Wycombe, Bucks

SCIENTIFIC PC USERS - Tim Bunning, SPCUG PO BOX 17, Relford, Notts DN22 6BQ 0777 709 009

SCHNEIDER EURO PC - Alex Kefford, SEPUG, 11 Crabtree Road, Three Bridges, Crawley, West Sussex RH10 1NF

SHARP - Andrew Ferguson, Sharp User Go, 11 Harcourt Close, Henley on Thames, Oxon RG9 1UZ. 0491 574850

SIRIUS - Simon Sheppard, ISSUE PO BOX 222, Brighton BN1 3BR.

SORD M-23 B Nicholson, Schlumberger Norge A/S Bjergstedveien, 4007 Stavanger, Norway. 474 657002.

SMART SYSTEMS USERS - Francis Barton, smart User Group, Basement Holy Rosary church, Louis Street, Chapeltown, Leeds LS7 4BP. 0532 629202

SUPERPROJECT - Geoff Groom, 3 Sunnymede Ave, Carshalton Beeches, Surrey, SM5 4JA. 081-643 3336

TAS (DATABASE) - Neil Hegarty, TASUG C/O Solutions for You, 1st Floor, 2 Lytton Rd, New Barnet, Herts EN5 5BY. 081-441 1133, BBS 081-449 4171

TANDY/MS-DOS - Roger Storrs, NATGUG Oakfield Lodge, Ram Hill, Coalpit Heath, Bristol BS12 2TY. 0454 772 920

TEXAS T199/4a - Peter Walker, T199/4a User Gp UK, 24 Bacons Drive, Cuffley, Potters Bar, Herts EN6 4DU. 0707 873778

TEXAS T199/4a - Peter Brooks, International TI User Group 96 Banbury road, Oxford OX2 6JT. 0865 510822

TRANSPUTER - Howard Oakley, Transputer User Group, Brooklands Lodge, Park View Close, Wroxall, Ventnor, Isle of Wight

UNIX USERS - UKUUG Secretariat Owles Hall, Buntingford, Herts, SG9 9PL. 0763 73039 /73255 (fax)

VENTURA PUBLISHING - VPU (Ventura Publisher User grp) Linda Liddell VPU c/o LLA Lound House, Fornceit St Mary, Norfolk, NR16 1JP. 0508 41580

WORDPERFECT - Michael Norman, Wordperfect User Group (UK) Dove Barn, Manor Farm, Wootton Woodstock, Oxon, OX7 1DX 0993 812 670

WORDPERFECT - Dr Ian Barton, A Perfect World, High Rigg, Alma Rd, Tideswell, Derby SK17 8LS 0298 871 925

• BBS

PECCAN'S BBS. Up to V22 bis. Very friendly sysop. On the PC-relay (Rime) network. Support for MS-DOS and VCSD P-system. Call 0272 248076.

YUKON HO! BBS. Remote access support. Fidonet. Chatnet, on-line games. areas for IBM, ST, Amiga, Mac. Over 1300 files on-line. Immediate access to file areas. Large selection of GIF images. 14.4 HST, V22, V22 bis, HST. Call 0232 768163

MACH II BBS. One of the best in Glos. Amiga and PC. Plenty of files and on-line 24hr. Do your! a favour and call: 0242 260685

BARNEY'S RUBBLE BBS. Birmingham-based 24hours a day. 300-2400 baud. MNP5 Amiga, IBM PC. Programmers, pen-pal, Comms section. 100Mb downloads plus 30 local and echo conferences. Fidonet (2:253/153). Call 021-441 1801

OPEN ACCESS BBS. On-line 6pm til 8am Mon-Fri and 24hrs weekends. Give our friendly board a call now on 081-427 3974

OLEF 1. For the PC. 300-9600 HST. Call 081-882 9808

01 For Amiga	071-377 1358	V21/22/22b/23
061 Pc Support	061-443 1529	V21/22/22b/23
4abc	0460 84511	V21
Above Board	0254 682862	Hst
Absolute Zero Obbs	081-741 7233	V21/22/22b/23
Advance Opus Hull	0482 28367	V21/22/22b/23
After Hours	0276 52095	V22/V22bis
Altair	0342 717800	V21/22/22b
Alt-386	0905 52536	V21/22/22b/23
Alt Electronics	0452 309125	V21/22/22b/23
Alan Solomon S Bbs	0494 724946	V21/22/22b/23
Alchemi	0666 504597	V21/22/22b/23
Alma Bbs	0787 277745	V21/22/22b/23
Alternative Reality	0352 856626	V21/22/22b/23
Alternative Reality	0959 76885	V21/23/23v
Alternative Vidata	081-761 8220	V21/23/23v
Amiga Board	0268 510495	V22/22b/23
Amiga Connection	081-981 9289	V21/23
Amiga Shack	0737 381178	V21/22/22b/23
Amiga South-east	0293 28464	V21/22/22b/23
Amifink Bbs	021-778 5868	V21/22/22b/23
Amitech Support	0202 294716	V21/22/22b
Andromeda Galaxy	0243 379430	V21/22/22b/23
Apple Crackers	0268 781318	V21/22/23
Apocot Tech Support	021-456 2402	V21/22/22b/23
Apocot Tech Support	021-456 2401	V21/22/22b
Arcoport	0252 737065	V21/23
Arena	0625 539063	V21/22/22b/23
Argus Project	091-490 0327	V21/22/22b/23
Arkham Bbs	081-952 5128	V21/22/22b/23
Aspects	061-792 0260	V21/22/22b/23
Atavachron	0480 412884	V23v
Atic	081-308 0466	V22/22b
Auld Reekie	081-663 9924	V21/22/22b/23
Avalon Northeast	031-564 0009	V21/22/22b
Babette Bbs	0532 785964	V21/V22/V22bis
Babbs Tower	0394 276306	V21/22/22b/23
Banart Board	081-783 1151	V21/22/22b/23
Bar	0904 542560	V21/23/23v
Barabas	0708 352526	Hst
Barney S Rubble	021-441 1801	V21/22/22b/23
Basingsstoke Opus	0256 728331	V21/22/22b/23
Bath Bbs	0225 335841/640060	Hst
Bbs09	0705 738025	Hst
Bbs	081-663 3732	V21/22/22b/23
Beetlec	0472 276476	V23v
Beleiguse 5	0463 231339	V21/23
Beyond Belief	0642 787898	V21/23
Big Bang Burger Bar	081-420 5355	V21/22/22b/23

Bike Shop	0705 827764	V22/22b
Bliss	0634 200931	V21/22/22b
Blackpool College	0253 57941	V21/22/22b/23
Blindin Bbs	081 764-0954	V21/23
Blitter	0292 671638	Hst
Body Matters	071-603 7581	V21/22/22b/23
Boggin	0532 483563	V23/23v
Boog Bb	0252 626233	V21/22/22b/23
Boroughbridge Obbs	0423 324532	V21/22/22b/23
Bradford Bb	0274 480452	V21/23/23v
Brandead Opus	0823 254352	V21/22/22b/23
Breakthrough	051-734 5817	V21/22/22b/23
Brown Bag	071-404 0897	V21/22/22b
Brunel Bbs	0272 584352	V21/22/23
Buz Board	081-202 9175	V21/22/22b
Buzby's Grapevine	041 762 2000	Hst
Byte Back!	081-459 8106	V23
Cargo BBS	0420 474562	V21/V22/V22bis
Campus Ros	0223 357445	V21/22/22b/23
Castle Bbs	0276 691872	V21/22/22b/23
Cats Board	0628 824852	Hst
Catweazle	081-428 9476	V21/22/22b
Cd4	0482 655798	V23/23v
Central Bbs	021-711 1451	V21/22/22b/23
Chase Wildcat U.g.	0543 871562	V21/22/22b/23
Chequers	0622 891308	V21/23
Chiba City	0501 44662	V21/23/23v
Chipboard	0532 320225	V21/23/23v
Chronos Lair	021-744 5551	V21/22/22b/23
Cix	081 399 5252	V21/22/22b/23
Clapham Junction	0234 64261	V21/22/22b/23
Cliff's Corner	0502 518274	V21/22/22b/23
Club 1512	081-204 8755	Hst
Co-op Board	081 316 6488	V21/22/22b/23
Co-op Board (cns)	061-832 1861	V21/22/22b/23
Co-op Board (nloc)	0508 826339	V21/22/22b/23
Co-op B'Mouth	0202 532701	V22/22b
Co-op P'Mouth	0705 754851	V21/23
Codeomatic Bbs	0472 250690	V21/22/22b/23
Communitel Demo	081-968 7402	V23v
Compass!	0942 396661	V21/23
C'center Opus	071 928 2005	V21/22/22b
Computers 4 Christ	0926 428294	V21/22/22b/23
Connection	071-978 8540	V21/23/23v
Connections	081-903 1309	V21/23/23v
Connet	071-431 3922	Hst
Consett Forum	0207 506179	Hst
Corby Town Opus	0535 205112	V21/22/22b/23
Comwall Gate Opus	0752 848806	V21/23
Cpm User Group	0753 868196	V21/22/22b/23
Critical Mass Bbs	0727 56939	V23/23v
Crown Green	071 245 1512	V21/22/22b/23
Crystal Tower	081-886 2813	V21/22/22b/23
Cure	0604 27865	Hst
Cv Database Bb	0427 810211	V22/22b
Cymruel	0492 49194	V23v
Cynotel	081-345 2816	V23v
D'le	061-434 9907	V21/22/22b/23
Dabbs	0846 653067	V21/22/22b
Dambusters	0203 333195	V21
Dark Crystal	081 207 2989	Hst
Dark Halo	0392 434477	Hst
Dark Side	0445 33729	V21
Darkhaven	0604 413716	V21/22/22b/23
Data Network	091-478 5464	V21/22/22b/23
Datasel/Wanderland	081-680 5330	V23
Datasoft Opus Bbs	0460 54615	V21/22/22b/23
Datatrade Obbs	0536 725180	Hst
Dease User Group	0532 842213	V21/22/22b
Dce Board	0296 88165	V21/22/22b
Dcs	081-879 7578	V21/22/22b
Deep Thought	0834 663696	Hst/V22
Deeply Wonderful	0455 557261	V21/22/22b/23
Desert	0244 550332	V21/22/22b/23
Diamond Opus	0791 86504	Hst/V22
Digital Bt	0925 411265	V21/22/22b/23
Digital Matrix	021-705 5187	V21/22/22b/23
Direct-line 1	081-841 1847	V21/22/22b/23
Direct-line 2	081-842 2030	V21/22/22b
Domain Bbs	081-773 2422	V22/22b
Dragon S Tower	081-202 0708	V21/22/22b
Dunedin Blackhole	031-669 2974	V23v
Dwarfen Realm	0376 501036	V23v
Ebbs-1	0274 541156	V21/23/23v
Eddie's Bbs	0635 71324	V21/22/22b/23
Empirical Research	0543 575158	V21/22/22b/23
Emphyron	0792 580781	V21/22/22b/23
End To End	0376 84644	V21/22/22b/23
End Zone	0524 752245	V21/22/22b/23
Engineers Workshop	061 327 7036	V21/22/22b
Eureka Galways	0603 250689	V23/23v
Eureka II	081-683 0629	V21/22/22b/23
Exchange SW	0767 5051	V21/22/22b/23
Eye-2	0525 715789	V21/22/22b/23
Fai Opus	0736 794827	V21/23
Falcon Bbs	081-527 4165	V21/22/22b/23
Family Skeletons	0480 812097	V22b
Fen Tiger	0954 210692	V23v
Fido UK1	0734 713809	V22/22b
Firm	0273 513872	V23v
Flight Path	081-759 1957	V22/22b
Focus International	0905 795002	Hst
Focus Tibbs	0303 42690	Hst
Focus UK	0905 774477	V21/22/22b/23
Forum View	031-660 3474	V21/22/22b/23
Forum-80 Hull	0482 859169	V21
Fox S Den	0689 27065	V21/22/22b/23
Free Net One	0767 51972	V21/22/22b/23
Freelance Lyra	0480 406261	V21/22/22b/23
Friday The 13th	0642 224933	V21/22/22b/23
Fuzzy Logic	0634 200707	V21/22/22b
Gabbs	0705 524805	V21/22/22b/23
Gallery Obbs	081-847 2795	V21/22/22b
Game Over	0752 848070	V21/22/22b/23
Games Online	0273 699200	V23v

Bored with the baud? This week why not try: CIX

TELEPHONE/PROTOCOL

CIX voice line 071-390 8446

300-2400 071-399 5252
071-390 1244

9600(HST) 071-390 1255

So maybe you don't look on subscription services as BBS. But they have quite a lot to offer the dedicated comms enthusiast and the general computer user alike.

For more information phone the voice number, but suffice it to say that if you're looking for the place to be on-line then CIX must be it.

Ever fashionable even if it is a little expensive, CIX has something for most people on-line.

Gaslamp	0706 358331	V21/22/22b/23
Gaugonzoia Bbs	0453 511112	24hrs/V21/22/22b
Gnome At Home	081 386 8894	V23v
Gods	081-994 9119	V21/23
Golly!	0734 320812	V21/22/22b/23
Goobel	0602 706307	V21/23
Good Life	081-541 0167	Hst
Gopherit's Box	061-320-3208	V21/22/23
Gourmet	0474 536654	V21/22/22b
Grainstone	0905 770196	V21/22/22b
Grenadier	0825 762803	V21/22/22b
Hacker's Delight	0702 523853	V21/22/23
Halfwits Bbs	0272 340310	V22/22b
Hamnet	0482 465150	V21
Harlequin	061-945 3612	V21/22/22b/23
Hastings Bbs	0424 717919	V21/22/22b/23
Hawk S Castle	0344 411621	Hst
Hazard Bb	071 737 0505	V21/22/22b/23
Health-data	081-986 4360	V23v
Heartbeat	0734 352032	V21/23
Hilary's Board	0277 233468	V21/23
Hot-air Opus	0579 70347	V21/22/22b
Humber Bridge	0482 850785	V21/22/23
Ichthus (Unity 3)	0734 461466	V21/22/22b/23
Index Linked	0227 770403	V21/22/22b
Intel Ace	0832 73003	V23v
Islington Bbs	071-704 0760	Hst
It Contacts	071-226 1248	V21/22/22b/23
Jablon Bb	0254 59352	V21/23/23v
Jersey Bbs	0534 317779	V21/22/22b/23
Jersey Opus	0534 39389	V21/22/22b/23
Jocks Away!	031-225 5368	V21/22/22b/23
Jolly Fisherman	0754 67796	V21/22/22b/23
Jolly Roger	081-742 1640	V21/22/22b/23
Jusav	0324 32414	V21/23
Just The Place	0705 258694	Hst
K-wood	0608 33458	Hst
Kashmir S Bbs	0472 347882	V21/22/22b/23
Kemona Bb	0209 821670	V21/22/22b/23
Key-board	0905 668398	Hst
Keydata	081-676 0072	V23v
Kidlington Bbs	0865 56703	V21/22/22b/23
King Of The Castle	0233 620228	V21/22/23
Kirklees Opus	0484 665415	V21/22/22b/23
Kleopatra S Pyramid	0602 384261	V21/23/23v
Komputer Knidge	0844 274066	V21/22/22b/23
Kybernetik	081-673 7294	V21/22/22b/23
Labyrinth	051-724 4458	V21/23
Lamplight Obbs	0705 811531	V21/22/22b/23
Laser Tibbs	0532 438430	V21/22/22b
Lau S Of Bb	081-751 6096	Rb V23v
Lightfinger's Place	0202 485723	V21/22/22b/23
Lineflight	0580 212043	V23v
Linux Bbs	0522 511277	V21/22/22b/23
Liquorice Alkorts	0633 279985	V21/22/22b/23
Liverpool Mailbox	051-428 8924	V21/22/22b/23
Liverpool Ros	051-931 4271	V21/22/23
Loch lomond	0389 55762	V22/V22bis
Lofi	0442 230461	V21/22/22b/23
Log On In Tynedale	0434 506539	V21/22/22b/23
London Bb	081-455 6607	V21/22/22b/23
London City Mag	081-468 7648	V21/23/23v
London Connection	081-667 1313	V21/22/22b/23
London Embassy	081-366 1778	Hst
London Guest Hse	081-748 0974	Hst/V22
London Mail Centre	081-534 1200	V21/22/22b/23
London Metropolis	081-519 1055	V21/22/22b/23
London Underground	081 423 2233	V21/22/22b/23
Loony Bin	0703 787489	V21/23
Mabbs	021-444 8972	V21/22/22b/23
Mach II Bbs	0242 260 685	V21/V22/V22bis
Machet Hq (gm Box)	0602 455444	V21/22/22b/23
Machet Metro	081-543 8017	V21/22/22b/23
Machet Phoenix	0473 610139	V21/22/22b/23
Madness Bbs	0603 300947	V21/22/22b/23
Magic Castle Bbs	021 430 3761	V21/22/22b/23
Magie Mushroom	0361 83641	V21/22/22b
Magnum	0274 547006	V21/22/22b/23
Magrathea	0376 24402	V23v
Manor	0880 869031	V21/22/22b/23
Marcel	081-346 7150	V21/23/23v
Marlin	051 255 0225	V21/22/22b/23
Melbs Leconfield	0964 560745	V21/22/22b/23
Melbs Mischam Ic	081-648 0018	V21/23
Medway	0634 280031	V21/22/22b
Mekdronic Cnsilite	061-773 7739	V21/22/22b/23
Mercant	0203 611943	V23v
Merkenstead	061-434 7059	V21/22/22b/23
Merlin	0443 834179	V21/22/22b/23
Migobbs	0443 733343	V21/23S
Micro Live Bb	081 567 6500	V21
Micro Update	081-877 1529	V21/22/22b/23
Microdeal	0726 65422	V21/22/22b/23
Microlog	0422 71921	V21/22/22b/23
Microview!	081-509 0729	V23v
Midget Gem	0748 834838	V21

CIRCUIT CITY



Putting disks in the drive isn't a brain intensive task. As that's all software generally requires to get it going, most people can drive a computer even if it's only to erase the turtle's latest enemy or knock down walls of bricks and waves of aliens.

When it comes to more memory, extra drives and a better monitor, the first pangs of doubt creep in and to suggest open heart surgery for the beloved micro almost sends some into cardiac arrest.

Upgrading the hardware doesn't have to be a difficult or nail-biting job. There are three kinds of hardware upgrade.

EASY PEAZY

First there's the plug in piece of kit such as an extra external drive, a new mouse or a different monitor. The upgrade is as simple as a plug into an external socket, providing you follow the instructions (make sure that you never attempt a job that doesn't come with instructions) and that there are no problems of warranty. If you attempt an upgrade like this and your computer or peripherals refuse to work afterwards, go back over the instructions and check that you've followed them to the letter. There may be some small switch or link that needs setting.

Once you are sure that you've done the job to the specification and it still won't work, check for software patches. Some hardware upgrades need a short program to be placed in the start up sequence in order that the computer can recognise them. An example of this might be a PC mouse. A small file driven from the **autoexec. bat** sequence would re-configure the PC to recognise the mouse and translate its movement to the cursor position on the screen.

CAREFUL NOW

The second kind of upgrade is again of the plug in variety, but requires a little more courage and care. This is the internal variety and can differ in difficulty and fiddle between dead easy and Yellow Pages.

The PC owner is at an advantage in this department as most PCs come with rows of expansion slots. This means that to upgrade a PC, all that you generally need to do is open the lid, dump another card into a slot, perform any switch-flicking prescribed and run the configuration software.

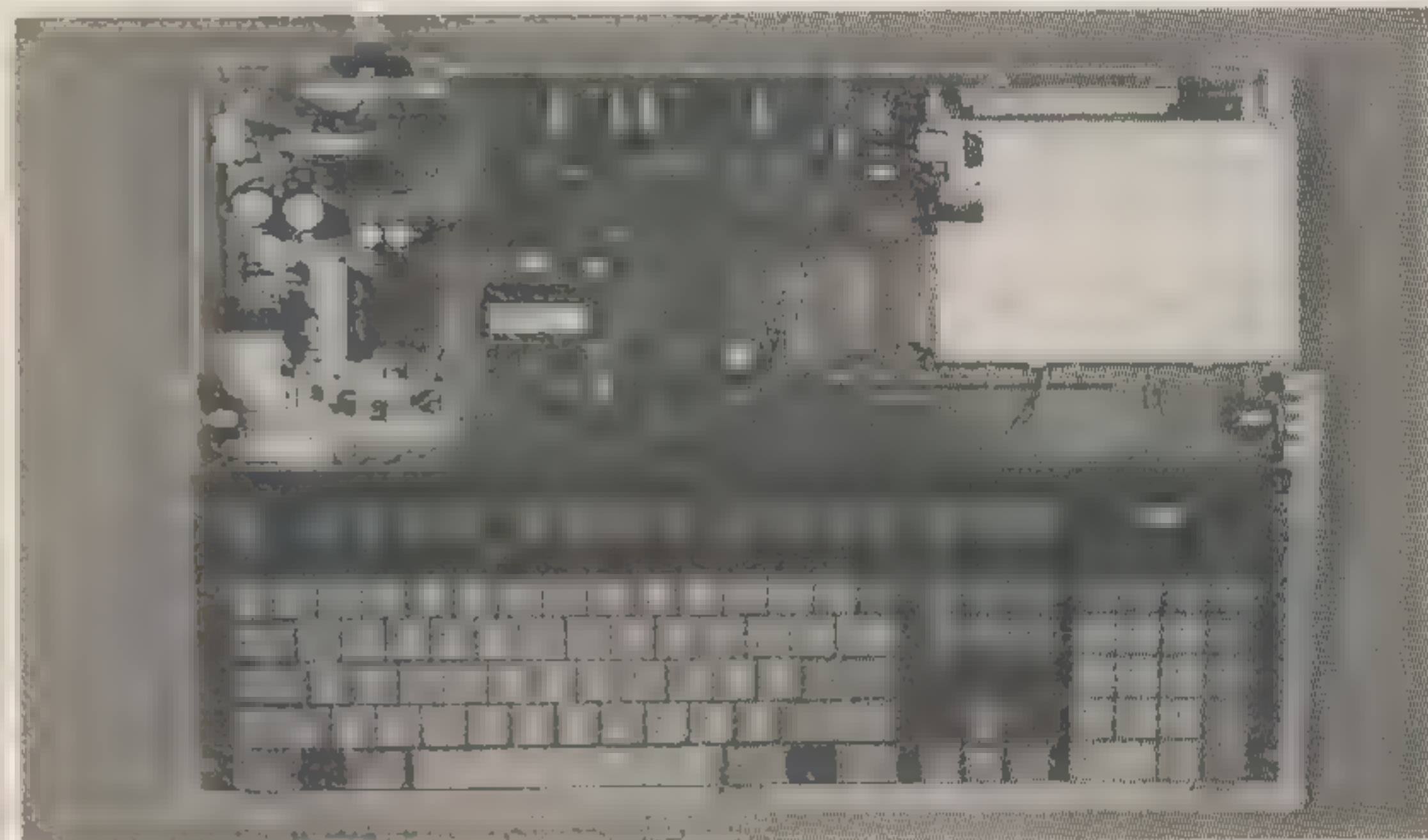
The Amiga, ST and A3000 don't have yards of space inside for upgrades and any internal surgery involves opening them up and delving into their silicon/germanium innards. The Sam Coupé has enough space for a bit of memory and not much more beside.

The Spectrum and Amstrad CPC series are positively full to the brim with their own bits and have no room for any add-ons although their external expansion buses make them readily upgradable.

HARD ONES

The final and most difficult upgrade is the true hardware add-on. This normally involves removal of components and the addition of boards and peripherals either in their place or as well as them. These internal upgrades can involve intensive soldering and de-soldering of ICs. This is delicate work and although many major components are socketed, work on the main board of a machine that

You've got your computer, beaten the high score on Burnin' Turtles and tired of reading the manuals. This week, Keith Pomfret looks at you empty connectors and sockets and offers advice on filling them.



• The office A3000 with the lid off ready for a good dose of 'peripheral welding', but don't add the bits on the verboten list or Acorn will take away your warranty.

involves hardware modifications should be avoided unless you're rich, stupid or an expert.

ARCH WELDING

Manufacturers are notoriously grey in their advice on what you can add to their babies. Disclaimers advising against disembowelment put the user in no doubt whose fault it will be if they do a bit of circuit welding and the machine goes pop.

To try and wash the grey bits whiter than white, we asked Acorn (in the shape of one JA Gorton, CS manager) to tell us what we could do to the office Arches and A3000s without Acorn turning its back on us.

Corporate brows were furrowed but, quick as a flash (about 14 days) Acorn replied with a complete list of those things that they would be miffed if you tried to weld yourself.

As an example all the other manufacturers still living in the land of grey and stink and as a ready source of reference those Arch and A3000 owners wallowing in a bath of solder with nowt to do ...to prove how dynamic they are, they also included a list of things that you can fit and things for the Beeb and Master ranges. Clever fellows.

Things you can't add to an Arch:

- AKA51 0.5Mb RAM expansion
- AKA52 1Mb RAM for 400/1 series
- AKA80 4Mb RAM for Archimedes 540
- AKD51 Floppy Disk upgrade for 400/1 series
- AKD52 20Mb Hard disk with controller card
- AKA22 MEMC1A upgrade
- AKA62 RISC/OS upgrade

Things you can't add to an A3000

- AKA18 Serial upgrade

- AKA12 User Port/MIDI upgrade
- AKA53 1Mb upgrade

Things you can't add to a Master/Compact/BBCB

- ANB22 Econet upgrade kit for BBCB and B+
- ADF16 Floppy drive for Master
- ANB27 64k upgrade for B+
- ANB31 1772 disk upgrade for BBCB and B+

I'll be ticking off a few of the allowed DIY upgrades and taking my screwdriver to the office A3000. ■

As this article went to print, the postman delivered the Atomwide 1Mb memory upgrade for the A3000. The enclosed documentation suggests installation by an authorised Acorn dealer.

We've sent news hound Campbell off to kidnap a dealer and when he gets back we'll be doing a photographic run through of upgrade under duress.

JUST REMEMBER KIDS,

Ripping the guts out of your computer may be more fun than watching Bob Symes fall off his ladder on Thursday at eight, but if your kit is in warranty, you will flush any remaining claim to guarantee down the pan as soon as your screwdriver makes contact.

Even worse, if you don't know what you're doing, or you aren't brilliant at following instructions, you could end up owning a dead computer.

Be realistic and don't attempt anything beyond your capabilities unless you've enough money to throw your dead computer in the boot of the Lamborghini and whizz it down to the tip.

U-Edit - Amiga - Electrix PD - AU001

U-Edit is just the thing for tapping out letters to your mum. It's a word processor and features all the usual editing facilities that you'd expect. It comes originally from the States, and you can obtain a whole host of add-ons by writing to the program's creator and paying the shareware fee.

At first you're presented with a rather nasty purple screen to work on. Luckily it's easily changed via a menu command. The pull down menus give access to a whole host of features, enabling to set it up more or less how you like.

It doesn't match up to a fully fledged word processor - it doesn't have any spell checking facilities for one thing. Then again, it doesn't cost a hundred quid either.

Astrology - ST (Double Sided) - Elmssoft PDL - Misc 46

Do you turn avidly to the horoscope pages of the daily paper, or do you think that the stars are a load of old tosh? Whatever your views on astrology, this disk from Elmssoft will prove to be an amusing distraction at the very least.

There are a fair number of programs on the disk, all in some way linked to the telling of fortunes. You can have your future predicted with Aztec and Chinese

THE PD COLUMN

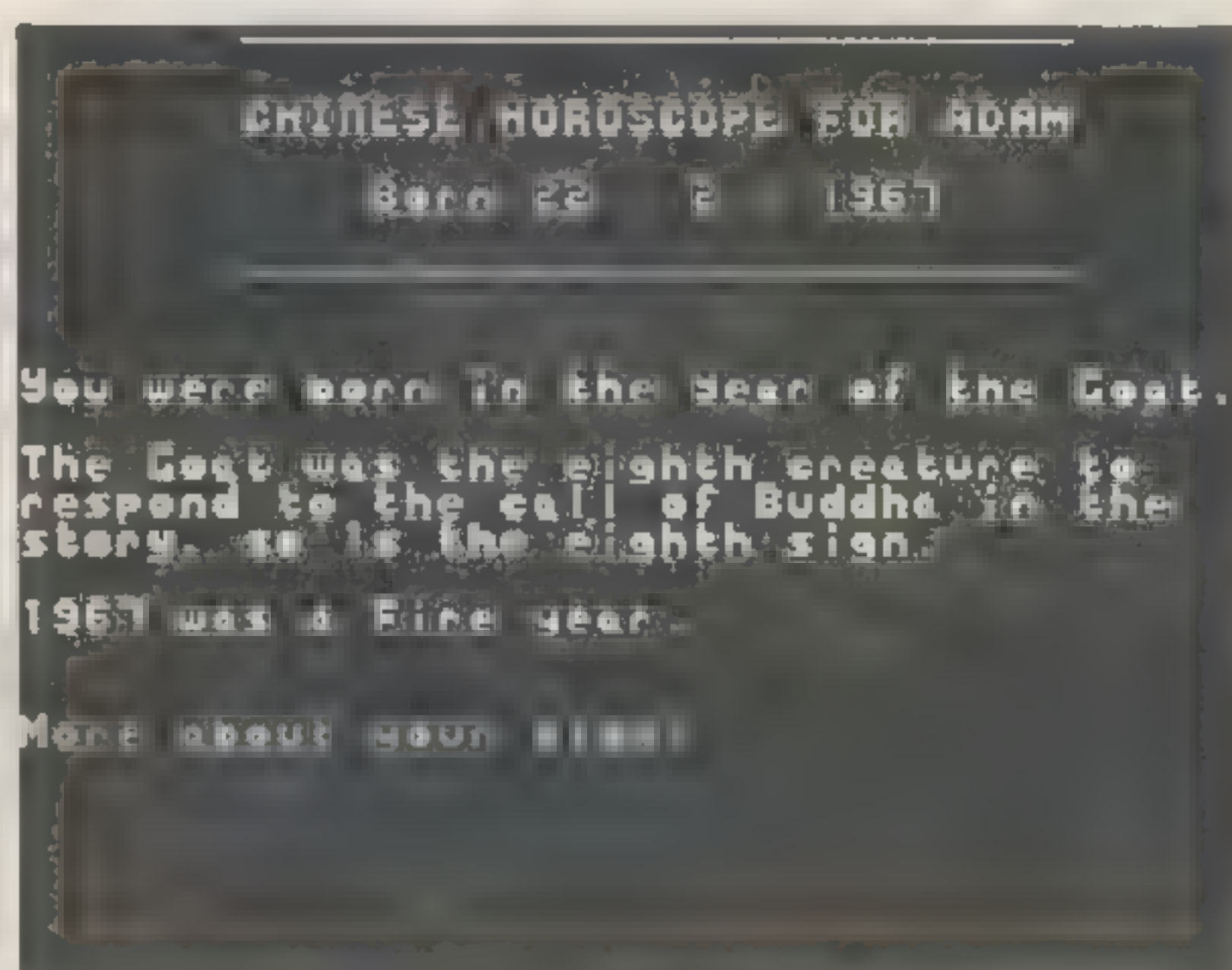
There's a wealth of free software out there which is yours for the price of a disk. Our PD man, Adam Waring, takes a look at what wonderful freebies are on offer this week...

charts. You can even use your unconscious mind to pick dominos, and reveal your future.

Personally, I take horoscopes with a large bucket full of sodium chloride. The prospect of a computer telling me what was in store for me makes it seem even more unlikely. Anyhow, I booted up, typed in my details and let the computer look into my future...

Apparently, I'll be selected for the England squad in time for the next World Cup, go on to become the President of Bolivia, and get paid on time for this week's PD column. OK, the first two have possibilities, but the third? Come on!

Dominos was quite good fun, but I suspect rather more random than the other programs. In this program you simply click on three dominos, and it prints out a pre-determined response to the



• So that explains my goat fetish...

AMIGANUTS UNITED

169, DALE VALLEY ROAD, HOLLYBROOK,
SOUTHAMPTON, SO1 6QX
0703 785680 - 10am to 7pm Weekdays
1pm to 5pm Saturdays

FREE DISKS + FREE PROGS + FREE MEMBERSHIP

521: ALL NEW STAR TREK, AUTHORISED English instructions	£4 00
631: PE MEGADIGISHOW Packed with good pics (2 DRIVES)	£3 00
640: 8 GAMES INC TRAIN SET, A MUST for the kids	£2 00
680: WORD SQUARE SOLVER - Solve magazine puzzle squares	£2 00
681: AMI-FX ISSUE 1 3 DISKS (FRACTALS) (1 MEG MIN)	£5 00
700: D-COPY Fantastic new copier	£2 50
705: AMIBASE PROFESSIONAL A LICENCEWARE DATABASE PROG	£2 50
706: 3 GAMES BY PH SOFTWARE The TURN, TRICKY, MARBLE SLIDE	£2 00
728: UTILS The Famous BOOT-SHOP, BOOT-KIT + others	£2 50
740: MED V2.13 A COMMERCIAL quality version of this FANTASTIC music utility, a host of new additions, including synth sounds	£2 50
741: NorthC V1.2 The VERY LATEST from Steve Hawtin, this new set is on TWO DISKS, packed with extra examples & advice on bugs	£5 00
798: ROB BAXTER'S AMIGAEUS (Mozart), classical music disk	£1 50
812: STAR TREK U.S. Version GOOD! (1 MEG) (2 Drives)	£4 00
813: A-GENE Genealogy (FAMILY TREE DATA) (1 MEG Min)	£2 00
814: AEROTOON ANIMATION With great sound efx (1 MEG)	£1 50
818: EXCELLENT Legend OF ROBIN HOOD Animated Demo (1 MEG)	£1 50
832: TEXTPLUS 2E0 A fantastic Wordpro/Spellchecker package	£2 50
834: BOWL V2.0 TEN PIN BOWLING SCORES ARCHIVER (2 DRIVES)	£2 00
836: KHERN ANIM GOOD, BUT NEEDS 1 MEG TO RUN IT (3 DISKS)	£4 00
838: RAYTRACE SLIDESHOW 9 T. RICHTER EXCELLENT! (1 MEG)	£1 50
840: PROFESSIONAL SOUNDTRACKER V1.0C	£1 50
841: FANTASTIC LOST IN SPACE ANIM ON 3 DISKS (2 MEG)	£4 00
848: NEW UTILS FROM KEFRENS, INCLUDES POWERMENU A MUST!	£2 50
855: PUSSY INNERSHIP THIS IS AN EXCELLENT GAME DISK!	£2 50
861: GENOCIDE PICTURE SHOW (FOR ADULTS ONLY!)	£2 00

A SPECIAL OFFER TO ALL USERS OF Teju Kihuen's FANTASTIC MED MUSIC UTILITY
TEN DISKS PACKED WITH MODULES THAT WE GUARANTEE WILL LOAD/RUN WITH MED. SIMPLY SEND
£14.00 AND ASK FOR THE SPECIAL MED MUSIC MODULES PACK
AT LAST! THE DISK THAT CODERS HAVE BEEN WAITING FOR

ACC 1-4: The first compressed issues of a new disk for coders, even if you are new to computers, get this one, if you want to learn assembly, (devpac), PACKED with Advice and sources etc. Edited by MARK MEANY INTRODUCTORY ISSUE OFFERED FOR ONLY £1 50

ACC 5: HERE IS THE NEXT ISSUE OF WHAT LOOKS LIKE BECOMING A HOT FAVOURITE WITH NEW AND OLD AMIGANUTS ALIKE, PACKED WITH SOURCE, HINTS, TIPS FROM MANY OF THE WELL KNOWN PEOPLE ON THE AMIGA SCENE TODAY. THIS IS A LICENCEWARE DISK AND A SHARE GOES TO THE EDITOR. £3 00

ACC 6 + 7: Now available at £3 00 each

OVER A THOUSAND DETAILED PROGS ON THE MAIN CATALOGUE DISK £1 00

PRICES QUOTED ABOVE INCLUDE THE DISK AND RETURN POST/PACKING

MERRY XMAS TO ALL OUR CUSTOMERS

Make cheques/Postal Orders payable to: AMIGANUTS UNITED

169, DALE VALLEY RD, HOLLYBROOK,
SOUTHAMPTON SO1 6QX. PHONE 0703 785680.

Please note: Some demos contain language that may be considered offensive

Lorenzo's Domain
Amiga P.D. & SharewareOUT NOW NEW MEGA MAGAZINE/CATALOGUE DISK
Free with every order or 75p without order

MUSIC 102: Lorenzos music utility disk. Rippers and Players galore. 111: Rave Demo (1 meg) by H.C.C. 126: Arnold Schwarzenegger Total Remix (2 Disks) Very funny 136: Digital Concert 6 by Flash Productions. The latest 8 minute mix 138: Sound of Silents. A disk with some great tunes by the Silents. 139: Alcatraz Music Disk. An excellent Remix of "You Got The Power" 140: Newtons Music Disk 6 Good songs with some crazy equalisers 141: Dmob Music 3. Their best so far. Quite excellent. 144: 100 Greatest C64 tunes All your old favourites DEMOS, INTROS & MEGADEMOS 206: 5 major demos inc. The Revenge of Babbnassen. Cebil90 by Red Sector 209: Scoopex: Mental Hangover 223: DeathStar Mega Demo (2 Disks) 226: Freddy Kruger Rap. 228: Robocop demo 229: RAF Megademo: (2 disks). Some great animation on this one 230: Red Sector Megademo (2 disks). Simply one of the best around 232: Safe Sex Demo. Absolutely hilarious and it isn't even X-Rated 239: Goldfire Megademo. New first demo from Goldfire. Excellent 247: Cronics Neverwhere (1 MEG). A disk that deserves to be called MEGA 248: Cronics Megademo 3 Parts all great. The Madonna Animation especially 249: Cave Compact (1 MEG) A compilation of really good demos 250: Brainstorm Megademo. (2 DISKS). 251: Giants Megademo. (2 disks). 253: Rebels Megademo. Hot stuff from beginning to end.	
GRAPHICS PICCYS AND ANIMATION 308: Nightbreed Slideshow by H.C.C.: These are the best pics I've seen yet 315: Miller Lite Advert. 319: Neighbours Slideshow. Full of hilarious captions. 407: Walker 1 Animation (1 Meg). Been around for a while. A Classic. 408: Walker 2 Animation (1 Meg). Yep! You got it another Classic. 412: The Education of Cool Cougar (1 Meg). Brilliant 420: Fractal Flight (1 Meg): Demo of Fractal Flight by Hypercube. Wow!! 425: Raiders of the Lost Arc. (1 Meg). Best sequence from the film. 430: Dragons Lair 2 Time Warp Demo: (512K). Great demo of the new game.	
GENERAL 500: Jazzbench: Jazz up your workbench 501: Fonts Disk: Loads of fonts 502: Wordprocessor 503: Spreadsheet. 504: Database 506: Dope Intro writer. 507: Virus Killer disk 508: Tetra copier. New and very very good. 511: North C: Complete programming language by Steve Hawtin 512: Complete C Manual. (2 Disks): 200 Page manual with 70 example progs. 513: Clip Art Collection (6 Disks). All the Clip Art you'll ever need.	
GAMES 702: Star Trek 3: (2 Disks) absolutely fantastic.... 707: Paranoid: Arkonoid like game with its own screen editor 709: Pseudo Cop. Woooooowow!! Absolutely brill. 710: Flaschbier. A very good Boulderdash look alike.	

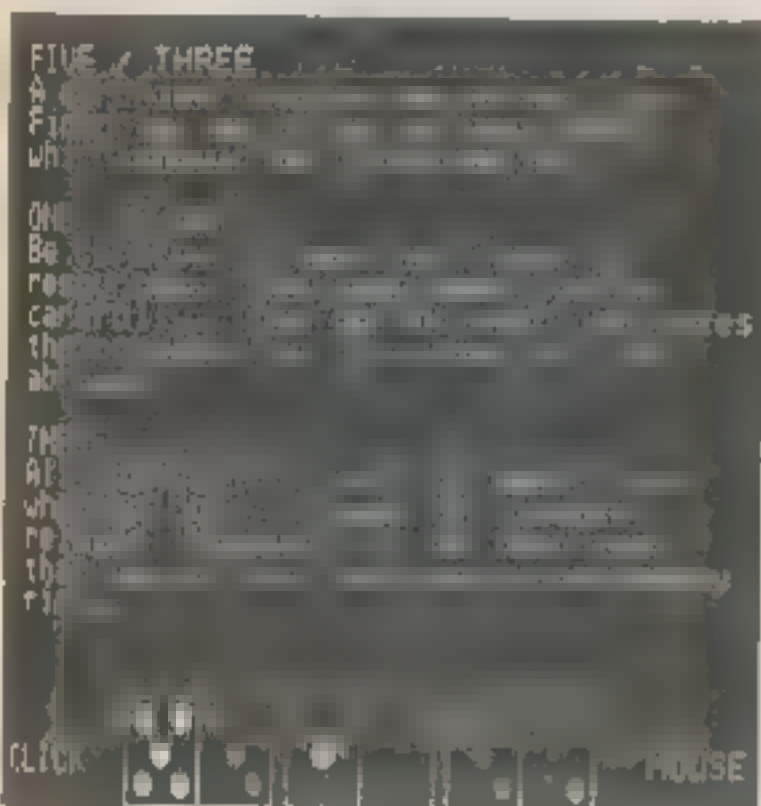
ONE DISK FREE WITH EVERY 10 ORDERED

No membership FREE catalogue with every order. When you choose from Lorenzo's Domain you can be sure of getting the best VIRUS FREE P.D. around. We aim to have your order back in the post within 2 hours. Delivery on PD disks 50p on total order. Delivery on other items £1.50 on total order. Send your order with a cheque or P.O. to.

LORENZO'S DOMAIN
30 COLQUHOUN SQUARE, HELENSBURGH, G84 8AQ

selected tiles. It's a bit similar to tarot cards really. Of course, if you do too many times then the predictions conflict so much, well, you just don't know what to believe.

The programs were devised by a programmer/astrologer team, so whatever you believe, the stats thrown at you should be in line with what a real fortune teller would tell you.



• Pick three dominoes, any dominoes...

The disk is exclusive to Elmsoft - you won't find it in any other library so don't bother trying. In addition it's shareware rather than PD. This makes no real difference as it's around the same price as PD software, but the developers get a small amount of remuneration for their handiwork, encouraging them to keep programming.

Total Recall - Amiga - Diamond PD

Arnie and pals feature in the *Total Recall Demo*, from the stupendously violent and hugely entertaining film of the same name. Loads of superbly digitised mono stills are displayed, whilst a sound-track keeps accompaniment. (I don't think it's from the film, though).

The demo was written by an up and coming demo group called Timecode. It's Timecode's first production, but it's hoping to produce a number of similar demos in the same vein.

There are quite a lot of pictures on the disk, some of them quite good and it should have a fair amount to offer for all Arnie fans.

Crionics Megademo - Amiga - Electrix PD | AD002

Crionics Megademo is really a compilation of three demos in one. *Noia Demo* and *Pigs in Space* show off some really smooth vectored 3D routines, fascinating to watch. What really impressed me though was the *Madonna Demo*.

A huge cartoon animation of Madonna walks along the street. The background and foreground scroll smoothly in around four planes of parallax. Admittedly the animation is made up from a small number of frames repeated in a loop, but who cares? It looks brilliant and is well worth a look.

It's supposedly inspired by the intro to the *Who's That Girl?* video. You know, the bit where the blond bimbo walks along the road, but the music comes from a different source.

PD NEWS

A new Amiga library opens shortly. It calls itself Electrix PD, and will be taking orders from November. As well as supplying PD software for Commodore's machine, its catalogue offers news, reviews, interviews and so on. It's running a competition to find the best PD programs of 1990. Simply supply your vote with an order, and you could win 10 PD disks from the library.

As a special opening offer, four free disks will be sent, along with every ten bought. Prices are £1.40 per disk.

Electrix is on the look out for more software to add to its library. Anyone who contributes two disks to the library will receive a free blank one, and they won't only be stocking the 'big' demos.

Electrix Amiga PD resides at 68 Donald Drive, Chadwell Heath, Romford, Essex RM6 5DU.

There are plenty of libraries offering PD for ST and Amiga machines, but distributors for the PC software seems a bit thinner on the ground. It's surprising since public domain has been around on the PC for donkeys' years.

WHERE TO GO

Electrix PD, 68 Donald Drive, Chadwell Heath, Romford, Essex RM6 5DU. Electrifying PD software for your Amiga. All disks cost £1.40, but watch out for special offers. Make cheques payable to CMS.

Diamond PD, 21 Bettiscombe Close, Canford Park, Poole, Dorset BH17 9DH. They distribute the *Total Recall Demo* on the Amiga, and they charge £1.80 for doing it.

Elmsoft PDS, PO Box 17, Loughton, Essex IG10 2EE. For your ST. Disks from 90p. Send a blank disk or £1.10 to the address above.

CMB intends to fill that gap, and is well established, boasting around 500 disks, updated with about 50 disks a month, including stuff from a top US distributor.

Its catalogue is available on both 3.5 and 5.25 inch formats, and offers full descriptions of the software, rather than just reams of listings. It's yours for just 50p plus an a/c.

Prices for disks proper are £1.50 for 5.25, and £2 for 3.5 inch, including P&P. CMB shareware lives at 7 Rookhope Grove, Bishop Auckland, County Durham DL14 0SW.

SHAREWARE IN YORKSHIRE

Pack or single programs: -
All IBM format 5.25 or 3.5
Packs include: - Autocad Utilities, D BASn, Clipper, Turbo Pascal, Turbo-C Quick BASIC, Turbo-BASIC, Wordperfect-Tools, Symphoney Tools, Ventura-Publishing, MS-Windows, Programming Tools

All our program packs 1/2 price until December 20th

New Amiga & Atari lists

+ MANY MANY MORE

Details:
SJG SYSTEMS,
109 MILLFIELD LANE,
TANG HALL, YORK
YO3 0JP

TEL: 0904 430320/415246

* HARDWARE PRICES ON REQUEST *

WESTONING LTD

NEW LOW, LOW PRICES!

3 1/2 DS/DD

30p

Inc labels

5 1/4 DS/DD 20p

5 1/4 DS/HD 38p

3 1/2 DS/HD 70p

3 1/2 BOXES

40 cap £3.50

80 cap £4.00

150 cap £10.75

5 1/4 BOXES

50 cap £3.50

100 cap £4.00

* NO QUIBBLE GUARANTEE - FOR LIFE!

ADD £4 P&P OR £9 NEXT DAY DELIVERY

AMIGA

Screen Gems.....	£349
First Steps.....	£490
Class 90s.....	£490
External Drive.....	£55
1/2 meg upgrade with Clock.....	£35
1/2 meg upgrade without clock.....	£29
1 1/2 meg upgrade with clock.....	£90
1 1/2 meg upgrade without clock.....	£80

VISA

Access

ATARI

520 Discovery.....	£260
520 Power.....	£350
1040 Extra.....	£420
Portfolio.....	£210

ALL PRICES INCLUDING V.A.T

WESTONING LTD

12 SANDERSON ROAD, WESTONING, BEDFORD MK45 5JY

TEL: 0525 718668 0836 775060

Evesham Micros

ALL
PRICES
INCLUDE
VAT AND
DELIVERY

Buy with confidence from one of the longest established companies in their field with a reputation for good service and prices. We have invested heavily in a computer system to enable our Telesales staff to provide up-to-the-minute stock information, coupled with highly efficient order processing. Our fully equipped Workshop enables us to carry out almost any repair on our premises. We feel sure that you won't be disappointed if you choose Evesham Micros.



**AMIGA
SPECIAL
DEALS**

**Our A500 Packages also
include the following:**

Karate Kid II Jews Wordwright (w processor) Super Huey
Latterback Delcor Nigel Marven's Grand Prix Goldrunner
Battle Squadron High Steel Better Dead than Alive Night Walk

Amiga 500 512K Screen Gems pack including 'Back to the Future 2', 'Night Breed',
'The Beast 2', 'Deluxe Paint 2', Days of Thunder' and TV modulator **£379.00**
Amiga 500 1Mb Screen Gems pack upgraded to a 1Mb using our 512K RAM/Clock **£409.00**
Amiga 500 Screen Gems pack with Drive includes our high quality 3 1/2" External Drive **£430.00**
Amiga 500 1Mb Screen Gems pack with Drive
features our 512K RAM/Clock Upgrade plus our 2nd 3 1/2" External Drive **£465.00**

Vidi-Amiga video digitiser package £95.00	Philips CM8833 colour monitor inc.cable £249.00
Vidi-Chrome colour accessory for Vidi-Amiga £16.00	Kickstart 1.3 Upgrade pack £29.95
MiniGEN Genlock Adapter £95.00	AMOS Game Creator £37.50
Contriver Hi-Res replacement Mouse package £22.95	Music-X incredibly powerful music package £129.00
Naksha Hi-Res replacement Mouse package £28.95	Home Accounts (Digita) £18.95
Kraft Trackball (plugs into mouse/joystick port) £44.95	Amiga 500 dust cover £4.95

CBM A590 HARD DRIVE

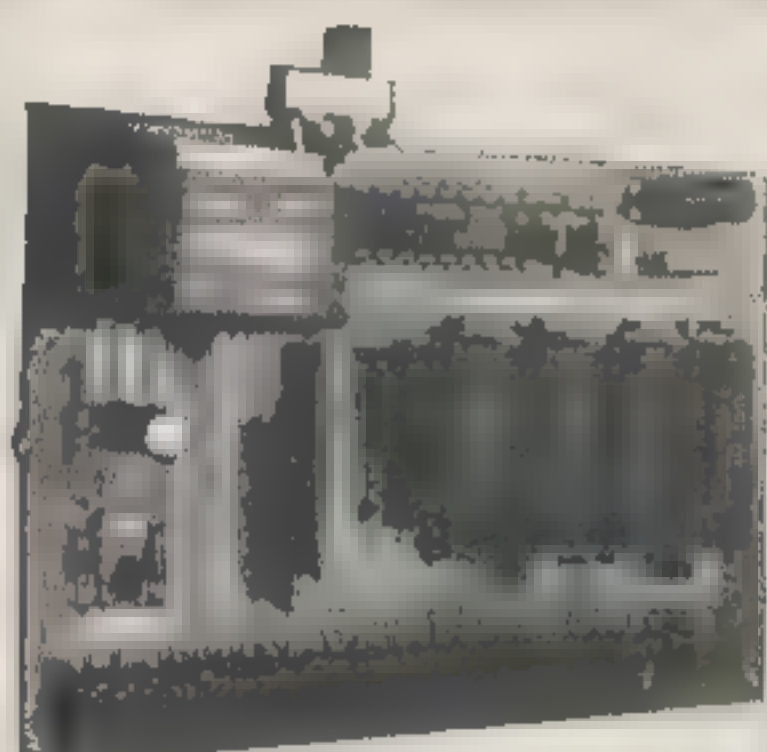
Good quality Commodore 20Mb Hard Disk, including its own PSU and built-in cooling fan. Features sockets for up to 2Mb of RAM expansion (see below). Autoboos when used with Kickstart 1.3.

A590 (20Mb) only £289
40mb version only £409

A590 512K RAM Upgrade kit £31.95
A590 1Mb RAM Upgrade £59.95
A590 2Mb RAM Upgrade kit £99.95
RAM upgrades fitted free when bought with A590

Genuine replacement
Commodore Amiga PSU .. **£39.95**

A500 SOLDERLESS RAM UPGRADES



**512K
MEMORY
UPGRADE**

ONLY £34.95
*including VAT &
delivery*

512K RAM/CLOCK EXPANSION FEATURES:

- ☆ Direct replacement for the A501 expansion
- ☆ Convenient On / Off Memory Switch
- ☆ Auto-recharging battery backed Real-time Clock
- ☆ Compact unit size : Ultra-heat design
- ☆ Only 4 low power consumption FASTRAMs

512K RAM expansion without clock only £29.95

NEW! 1.5MB RAM BOARD

- ☆ Fully populated board increases total RAM to 2MB !
- ☆ Plugs into the trapdoor expansion (as with 512K unit)
- ☆ Auto-recharging Battery Backed Real-Time Clock
- ☆ Socketed FASTRAM ICs for accommodation up to 1.5MB

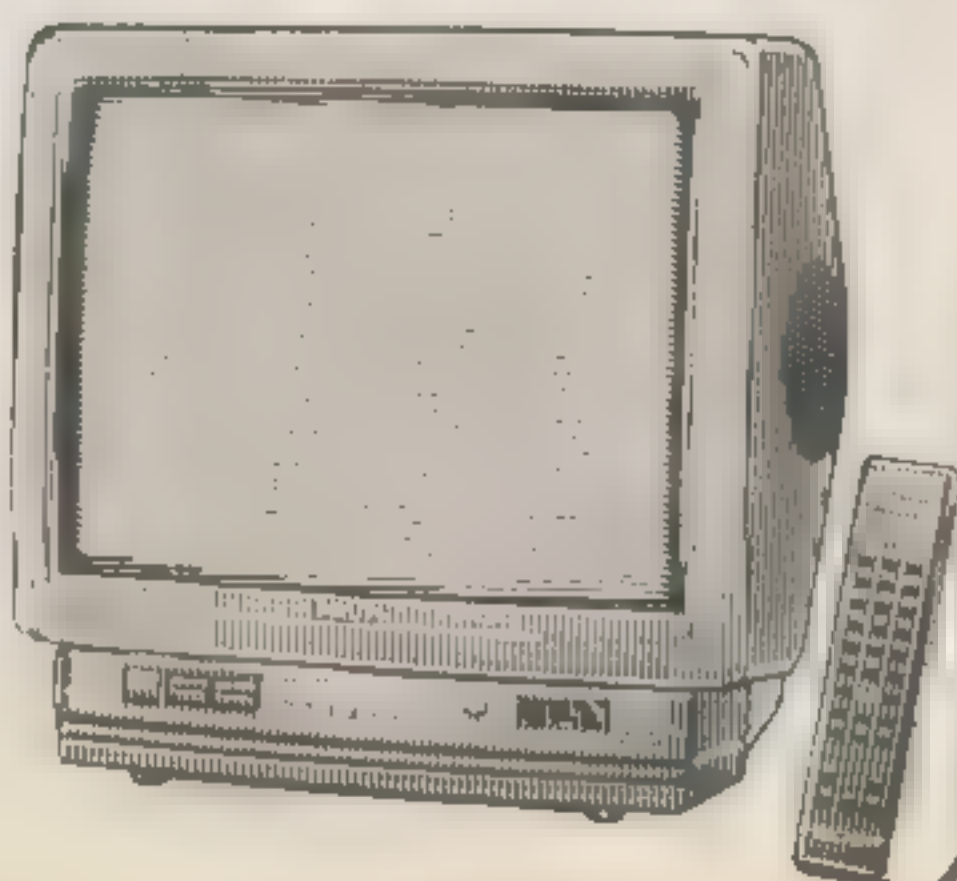
Unpopulated RAM Expansion Board with Clock **£39.95**
RAM Board with Clock, with 512K FASTRAM installed **£59.95**
RAM Board with Clock, with 1Mb FASTRAM installed **£74.95**
RAM Board with Clock, with full 1.5Mb FASTRAM installed **£89.95**
N.B. Requires Kickstart 1.3 to operate. Kickstart 1.3 Upgrade available from us for £29.95

PHILIPS 15" FST TV/Monitor (MODEL 2530)

With its dedicated monitor input, this model combines the advantages of a high quality medium resolution monitor with the convenience of remote control Teletext TV - at an excellent low price !

£269.00

includes VAT, delivery
and computer
connection lead



SPECIAL NEW AMIGA PRODUCTS

**MIDI
INTERFACE**
Only £19.95

GET CONNECTED !

Our new fully compatible, high quality MIDI interface connects directly with the Amiga serial port and provides IN, OUT and THRU ports for good flexibility. Features LED indicators on each port to assist ease of use and also for diagnostic purposes. Superb compact design.

**'TESSA'
speaker system**
Only £34.95

HEAR THAT STEREO !

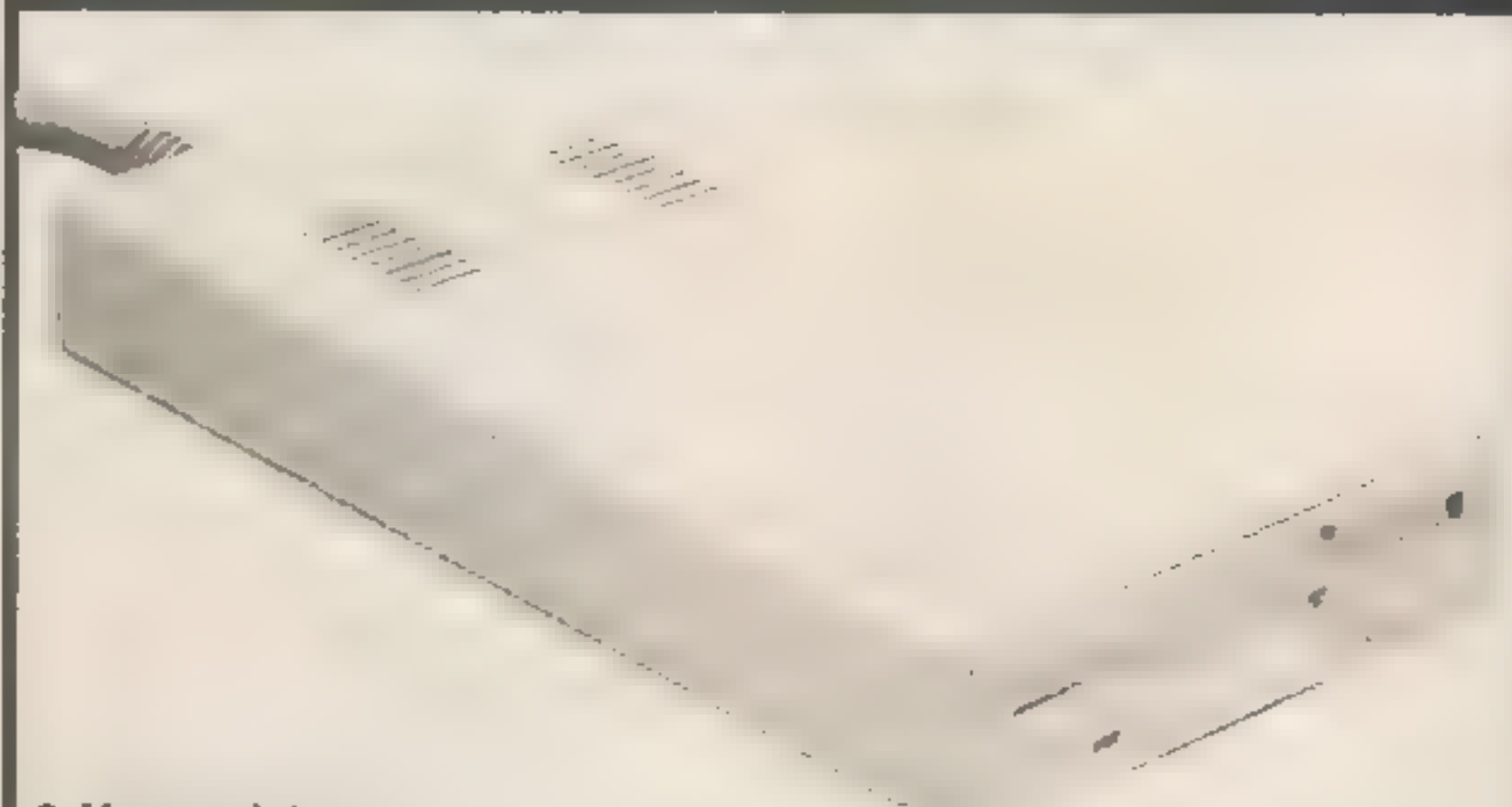
Your Amiga produces excellent quality hi-fi stereo sound. Enjoy high quality, stereo sound reproduction to the full with our great new twin speaker system, TESSA (twin ergonomic stereo speakers, amplified). Incorporates a specially designed, quality 2.5 watt per channel amplifier, including volume control, to obtain the best sound.

**STEREO SOUND
SAMPLER**
Only £29.95

S-S-SAMPLE THIS !

Offering full compatibility with almost any Amiga audio digitiser software, our Sound Sampler features excellent circuitry, yielding professional results. The main A/D converter gives a digitising resolution of up to 50KHz, with a fast slew rate. Two phono sockets are provided for stereo line input, plus an option for microphone. Adjustable gain is achieved with built-in control knob. Complete with public domain disk containing sound sampling applications / utilities.

Amiga & ST 3 1/2" Drives



- Very quiet
- Slimline design
- Cooling Vents
- Sleek, high quality metal casing
- Quality Teac / Citizen mechanism
- On / Off switch on rear of drive
- Throughport connector (Amiga)
- External plug-in PSU (Atari ST)
- Full 1Mb unformatted capacity
- Long reach connection cable

ATARI ST VERSION :

£64.95

AMIGA VERSION :

£59.95

5 1/4" External 40/80 Track Drive also available, only £99.00

ALL
PRICES
INCLUDE
VAT AND
DELIVERY

tested heavily
g. Our fully
am-Micros:

DRIVE

20Mb Hard
and built-in
for up to
(see below).
Clickstart 1.3.

£289
£409

£31.95
£59.95
£99.95
light with A590.

£39.95

UCTS

ED!

high quality
ly with the
as IN, OUT
flexibility.
ch port to
diagnostic
design.

REO!

quality hi-fi
ereo sound
reat new
ergonomic
orporates a
watt per
me control.

HIS!

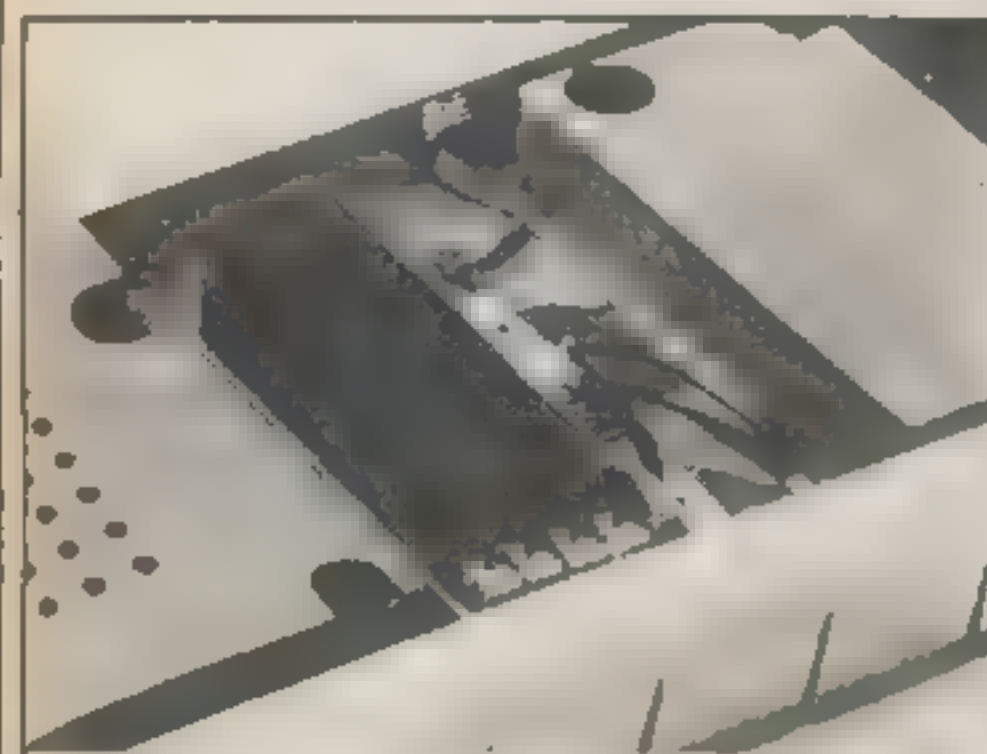
any Amiga
pler features
results. The
solution of up
to sockets are
an option for
d with built-in
domain disk
utilities.

ves

SION:
95
ION:
95

£99.00

NEW SOLDERLESS MEMORY UPGRADES FOR ANY ST



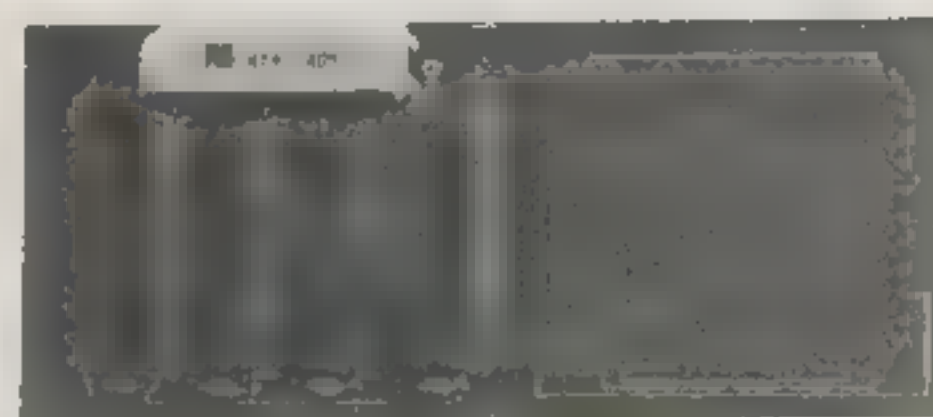
- ✓ Fits Any pre-STE Machine in Minutes!
- ✓ Uses SIMMS RAM Modules for Effortless Upgradeability
- ✓ Probably the Neatest ST RAM Upgrade available!

Upgrade the memory of your ST quickly and easily with our new, fully software compatible RAM upgrade board. Designed for pre-STE machines, the unit accepts SIMMS slot-in memory modules, making RAM fitting simplicity itself. No soldering required! No electronics knowledge needed! Available with or without RAM modules. Allows upgrade in stages of 1Mb, 2.5Mb and 4Mb, as and when necessary. Straightforward installation - full instructions provided.

RAM Upgrade Kit with board unpopulated £59.95
RAM Upgrade Kit With 512K RAM installed
upgrades a 520 ST to total of 1Mb RAM £89.95
RAM Upgrade Kit With 2Mb RAM installed
upgrades a 520/1040/Mega ST1 to 2.5Mb £174.95
RAM Upgrade Kit With 4Mb RAM installed
upgrades a 520/1040/Mega ST1 to 4Mb £284.95

ⓑ. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a small amount of soldering.

NEW! PLUG-IN SOLDERLESS 512K RAM UPGRADE FOR ANY ATARI 520 ST



Now there is a simpler, faster and more effective method of upgrading your humble 520 ST to 1Mb RAM! Our new plug-in 512K memory upgrade unit offers excellent value for money, requiring no soldering or special technical know-how. (Not suitable for STE machines.)

ONLY £69.95 including VAT and delivery

ATARI

All our ST prices include: mouse etc. plus 5 disks of software including 'First Word' wordprocessor, utilities, 'Neochrome' graphics utility, game and demos.

520 STFM DISCOVERY PACK

Good quality, good value package based around the 520STFM computer including 512K RAM, 1Mb Drive and built-in TV modulator. Also supplied is:

STOS Game Creator Outrun
Carrier Command Bomb Jack
Space Harrier Neochrome
First BASIC Atari ST Tour
plus 'Discovering your Atari ST' Book

£259.00
including VAT and delivery

1040 STE PROFESSIONAL PACK

Excellent starter package, including the very latest 1040STE machine with 1Mb RAM, 1Mb Drive, plus the following extras:

Kuma Wordprocessor STAC Adventure Creator
Kuma Database Hyper Paint (STE version)
Kuma Spreadsheet First BASIC
Kuma Business Graphics 'Prince' game

£429.00
including VAT and delivery

NEW! 520 STE TURBO PACK

Features the latest 520STE with 1Mb drive, joystick, mouse, user guide, 5 disks of public domain software, plus a high quality selection of entertainment and creativity software, including:

Indiana Jones & the Last Crusade Blood Money
Impossible Mission II Super Cycle
Human Killing Machine Out Run
Dragons Breath Anarchy
Hyper Paint II (STE version) First BASIC
Music Maker 2 (STE version) STOS

£339.00
Inc. VAT & Delivery

520STE RAM upgrade to 1Mb, includes 2 x 256K SIMMS modules £40.00
520/1040STE RAM upgrade to 2Mb, includes 2 x 1Mb SIMMS modules £119.00
520/1040STE RAM upgrade to 4Mb, includes 4 x 1Mb SIMMS modules £235.00
520STFM 1Mb Drive Upgrade Kit with full fitting instructions £54.95
520STFM 1Mb Memory Upgrade Kit, requires soldering £59.00
Mega ST1 with monochrome monitor £599.00
Mega ST2 with monochrome monitor £849.00
Mega ST4 with monochrome monitor £1099.00
SM124 monochrome monitor £99.00
SC1224 colour monitor £279.00
Philips CM8833 14" colour monitor (stereo sound) c/w ST cable £249.00
Vidi-ST 16-tone video frame grabber inc. digitising software £89.00
NeoDesk V3 Desktop replacement £29.95

PRINTERS

All prices include VAT, delivery, and cable

star

Evesham Micros Special Offer - ALL STAR PRINTERS INCLUDE 12 MONTHS ON-SITE MAINTENANCE!

Star LC10 best-selling 144/36cps printer, 4 NLQ fonts £159.00
Star LC200 NEW replaces LC10 Colour model, with new features: 180/45cps with bottom feed facility and push/pull tractors £209.00
Star LC15 wide carriage version of LC10 £329.00
Star LC24-10 feature-packed multilfont 24 pin printer £239.00
Star LC24-15 wide carriage version of LC24-10 £409.00
Star LC24-200 NEW updated ver. of LC24-10 with bottom feed facility, push/pull tractors and a print speed increase to 200/67cps £249.00
Star LC24-200 NEW 7-colour version of LC24-200, excellent value £289.00
Star FR-10 Professional 9pin 300/76 cps, 31K buffer, 16 NLQ fonts, EE-PROM configuration memory and 12 months on-site maintenance £399.00
Star FR-15 9pin as FR10, wide carriage version £499.00
Star XB24-10 Professional 24pin: 27K buffer, 4 SLQ & 25 LQ fonts with EE-PROM configuration memory and 12 months on-site maintenance £499.00
Star XB24-15 wide carriage version of XB24-10, with 41K buffer £649.00
Hewlett Packard Deskjet Plus 300dpi Inkjet printer - while stocks last! £399.00
NEC P2+ budget 24pin, special low price! £239.00
Panasonic KXP1180 super 9pin with over 3400 typestyles, 11" carriage £179.00
Panasonic KXP1124 good quality 11" multilfont 24pin printer £269.00
Panasonic KXP1624 wide carriage version of KXP1124 £399.00
Epson LX400 popular 10" 180/25 cps £159.00
Epson LQ550 good 24pin printer 150/50 cps £349.00

Western Digital Filecards

Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality filecards, with ultra-competitive speed ratings. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC 1512/1640/2086 users we supply filecards tested and formatted, with our simple software installation procedure. Probably the best packages available!

21MB...£225.00 32MB...£239.00 41MB...£279.00

ATARI
AMSTRAD

Buying a PC? Shopping around for the best deal? Evesham Micros is one of the UK's leading suppliers of Olivetti, Amstrad, Sharp and Atari PC's, offering highly competitive deals at the lowest prices. Contact us now for a quote!

olivetti
SHARP

Evesham Micros

RETAIL SHOWROOMS

Unit 9 St Richards Road
Evesham
Worcs WR11 6XJ
☎ 0386-765180
fax: 0386-765354
Open Mon - Sat, 9.00 - 5.30

5 Glisson Road
Cambridge CB1 2HA
☎ 0223-323898
fax: 0223-322883
Open Mon - Sat, 9.30 - 8.00
Specialist Education Centre

1762 Pershore Road
Cottrelodge
Birmingham B30 3BH
☎ 021-458 4564
fax: 021-433 3825
Open Mon - Sat, 9.00 - 5.30

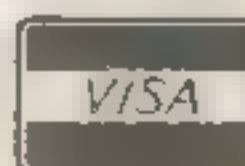
ALL PRICES INCLUDE VAT AND DELIVERY
Same day despatch whenever possible. Express Courier delivery £5.00 extra.

MAIL ORDER DEPARTMENT

Unit 9 St Richards Rd, Evesham, Worcs WR11 6XJ

Call us now on ☎ 0386-765500

8 lines, Open Mon - Sat, 9.00 - 5.30. Fax: 0386-765354
Technical support (open Mon - Fri, 9.30 - 5.30) ☎ 0386-40303



Send an Order with Cheque, Postal Order or ACCESS/VISA card details.
Allow 5 working days personal chq. clearance.

Government, Education & PLC orders welcome
All products covered by 12 Months Warranty
All goods subject to availability. E. & O.E.

TECH TIPS



Does your PC keep packing up? Is your Amiga less than friendly? Would your ST try the patience of a saint? Write to Keith Pomfret's Tech Tips and we'll soon see you right. Send your sorry stories to Tech Tips, Beauford Place, 30 Monmouth Street, Bath BA1 2BW.

■ HELP! Colour Arch

I've an Acorn (or was that BBC, I could never tell) A3000. It's OK at printing out word processor files and labels and things, but I can't find any printer drivers that will allow me to get a colour output from my Star LC10C. I think that it may be the same driver as one of the Epson colour printers, but I'm not too sure. I have several files that look crappy in grey, black and white and I'm sure that they could benefit from some sort of technicolour output. Also, is it possible to get a home re-inking kit for multi-colour ribbons like the one in my Star.

Melanie Boddington, Manchester.

We can offer around 50 per cent solace to you with the good news that there are several colour printer drivers for the Archimedes. According to the chaps at Ace Computing, your LC-10C is Epson JX compatible, as are the Star XB-24, and Citizen Swift 24 colour.

The requisite driver will remove £15 of your disposable income and put it in the coffers of Ace Computing and your Arch will emanate rainbows of epic (at least A4) proportions.

To make life even cosier for Archimedes and A3000 users, Ace Computing also offers printer drivers for the HP Paint jet, Canon PJ 1080-A, Integrex and ColourCel printers. Ring Ace on 0223 322559.

■ HELP! Travel time

Does anyone do a program with all of the train and coach times on? If they don't, why not? A full BR/National Travel timetable attached to an Autoroute style calculating prog could offer the traveller an accurate route (cheapest fastest etc.)

Arnold Dymmock, Hillingdon, Uxbridge.

As far as we know there's no program available at the moment that does this, although the idea of holding timetables on a computer isn't so far fetched. BR runs a mainframe that lets its stations access timetable and reservation information and I'm sure I've seen a National Express inspector with a Psion organiser.

Getting the timetables and the route optimisation together in the same program could involve some fancy number crunching and one peek at BR's fare structure and Railcard criteria would

send even an ARM3 equipped Unix Archimedes running for cover.

If anyone thinks or knows different, hop on the delayed 14:26 from Temple Meads and we'll meet you in Bath to buy you a beer (if the bus is on time.)

■ HELP! On the Map

Where can I get a schematic diagram of the memory map for my Archimedes A3000? Unlike the CPC I owned before there don't seem to be a selection of technical references available. In order to develop my own peripherals (as I did for the CPC) I need a complete I/O map, peripheral address map and a full set of the internal registers in tabulated form. Can you supply these or tell me who can. I don't mind paying

Julian Weeks, Farnborough.

Whoops ... this letter arrived at the end of August but it wasn't until I cleared out the editorial drawer that I found it hiding at the back between the heat sink pliers and the Haynes manual for my ailing Robin.

Still, every cloud has a silver lining. When your letter came in I couldn't have answered it anyway. Since then, the chaps at Acorn have sent us the requisite reference books.

The A3000 technical reference is the tome that you require. The schematics that you are looking for are on pages seven and eight. The technical reference manual is a loose leaf A4 folder and contains machine diagrams as well as the documentation that you could wish for.

At £29.95 it's a little heavy on the wallet, but it's worth every penny. The A3000 Technical Reference can be obtained through your local Acorn dealer or direct from Acorn on 0223 245200

■ Help! Leads and Bradford

I have a Microvitec Cub monitor No: 1451 DQ3, TTL input which I use for my QL computer. I am possibly getting an Amiga 500 and would like to use the Cub monitor.

Please could you tell me if it is just a case of changing the leads and what would I need?

R Piesey, Harwell.

You are quite right when you guess that it's a simple matter of changing the leads. The chaps at Microvitec in Bradford should be able to offer you the

necessary pin-outs for your QL monitor and by comparing them with the ones in the Amiga manual (23-pin video socket) you should be able to make or get your local computer store to make a lead that will do the job.

■ INDIGNATION! Good ramble

This is my third letter and you better not ignore it. Not everyone can afford heavy expensive manuals for two or three silly jobs. I wrote to you for you to print some tables from Amiga manuals and to ask you to run some of the paragraphs from a book called Amiga Disk Drives Inside and Out.

You have ignored my requests when it would be easy for you. All you have to do is scan or photocopy the pages in question and lay them out in Tech Tips. Not too difficult, huh?

Certainly easier than going off and researching some dim-wits 8-bit machine from the seventies or even worse a printer. Can't these turkeys buy suitable printers and peripherals.

Do yourself a favour - opt for an easier life and get the scanner out. Mo Patel, Lichfield, Staffs.

I haven't ignored your letter. The other two times I binned your letters for their abusive language and questionable subject matter. This time I've removed the words that make reference to ladies' nether regions and the act of propagation. (So get polite pal - Ed)

What you are asking me to do is criminal. On occasions we may type in a small table or a brief extract from a manual (with the permission of the publisher) but if we were to pander to every request for information from manuals, we would reprint enough to deprive the publishers of sales.

I will gladly find the book that you want and point you to the right place in it but depriving the author of royalties isn't our forte.

■ HELP! ST Clip Art

I have cast around the various PD and shareware libraries for the Atari ST to try and find some Clip art for my ST. Not much of a problem, you may think. As I only have a single-sided drive and it works. I don't want to go to the expense of buying another disk drive. There seems to be a lot of ST clip art available, but only on double sided disks. If I lived somewhere

where there were a lot of STs I could buy these and get a friend to transfer the files.

Unfortunately, here in Shetland there aren't a lot of STs. If you could recommend a way of buying the Clip art on single-sided disks or getting it transferred I would be grateful.

Campbell Byers, Lerwick, Shetland (Brrrr...)

Coincidence is a funny old thing, isn't it? I was reading your letter, scratching my head wondering who to recommend. A few phone calls drew a large white blank and I was running out of ideas. If I'd looked at what was in front of me in the first place, I could have saved myself time and effort.

The back page of the current (autumn/winter) Goodman PD catalogue offers masses of Clip Art in a set of either eight double sided or sixteen single sided disks.

Cost of Clip Art Set no.1 is £19.95 on double sided and £29.95 on single sided disk.

If you want to pay using plastic ring 0782 335650. Otherwise write to Goodman PD, 16 Conrad Close, Meir Hay Estate.

Digging deep into the Goodman's Catalogue I found a couple of pages of Clip Art disks. Everything from Animals to Lorries to characters from VIZ and all stations in between.

■ HELP! Membrane hurts

My Amiga just passed its first birthday, when - shock horror - the keyboard stopped working. Nothing worked. No keys, not even a caps lock light to brighten up my day.

I'm a PC man you see and I've spent many years playing around with them. So I took the cover off my A500 and found the fault: a duff keyboard membrane.

Great, I thought. So I picked up the phone and rang around a few places. Everywhere I was told I would need a complete keyboard and that would cost over £90.

I am writing to you in the hope that you know where to get a membrane or failing that a cheap(ish) keyboard. Anon.

There's no such thing as an Amiga membrane listed as a spare part and even Honest Joe's Amiga breaker wasn't

offering anything vaguely membranish. When you consider it, the keyboard of a computer is the bit that takes all the analogue stress (thumping) and over a period of time if it fails it will need to be replaced by something of sufficient quality and strength.

While you've been a bit unlucky (I've never heard of or had an Amiga keyboard go pop on me), £80 or so isn't a huge amount to pay for a piece of kit that keeps you in touch with your dedicated chip set

■ HELP! Identity Crisis

I have two machines on which I would like some information.

One is a Data-Point computer 1560 and the other is a Ricoh Synchrofax RP.

Where am I likely to obtain operating instructions for them and any spares?
W Bradbeer, Bognor Regis.

We haven't any info on them but if there's anyone out there who has

■ HELP! Which computer

As a first time buyer of a home computer. I would like your expert advice on which one to buy bearing in mind the difference in prices and special offers, and also which computer is best suited to games, writing programs etc.

I have read various articles, but am still confused as to which is the one to buy between the Atari 520STFM, Atari 520STE and the Commodore Amiga 500.

DG Herbert, Whitehaven.

All three fall in the same category. 68000 processor, good graphics second generation home computers. The STFM and STE are both Atari STs. The STFM is the more conventional of the two. The STE is an enhanced version with many whizzy features. The STE is technically better, but may experience some soft-

were incompatibility with earlier programs.

The Amiga comes with a slightly slower processor than its Atari rival, but a dedicated chip set makes it a more elegant machine than the STFM and the STE. If all this technical wibble means nothing to you and you are just looking for a good computer to play games and use serious software, any of the three will suffice. Around the *Express* office, a pool of machines owned by staff found a total of three Amigas, 2 STs, an Archimedes and a couple of PCs. If it were my decision I'd go for the Amiga, but then again, I already own one so I'm slightly biased.

■ HELP! Middle missing

I read with interest George Garven's problem with his Amiga hard drive set up. I too have had a very similar experience. I have an Amiga 500 with an A590 hard drive and A501 RAM expansion.

Very soon after I received my hard drive the Setlock command couldn't find the clock and a few files had a creation date of the future, namely 1993. Cycling power and virus hunting solved nothing. Eventually I decided to remove the clock. After de-soldering the metal RF casing the battery tested fine on my voltmeter. I reseated as much as I could and reinstalled it along with many files in C: but no luck.

But later, somehow I got it working.

Whether this is a hardware bug or what, I can't explain why it happened or how it was cured. I'm running ARP 1.3 now and have experienced no problems since.

A long, long time ago we had a Video Genie Computer. In an electronics magazine there was an extremely simple kit and program that you could cheaply build to create a crude morse decoder. The computer would attempt to display the correct

letters on the VDU. It was great fun and must be fairly simple, but I haven't a clue how to do it. I have tried using my sound sampler with Amos but can't seem to get any sense out of it. Any advice?

Mike Laskey, Ramsgate.

Your story is marred by the line which says "Somehow I got it working." It's difficult for fellow Tech Tipsters to follow your advice with vague comments like that in the middle. How would you like it if I answered your question about morse decoding with "I can do it on my Amiga using a program I've got."

Well I can and that's your answer until you put the meat in the sandwich and help out your fellow man with the full story.

■ HELP! Manual needed

I have a Novex colour monitor model NC1414-CL UK and it is faulty.

I have taken it to three computer repair shops, but they say they can't repair it without a circuit diagram.

I have sent a letter to the distributor, but it came back unopened marked no longer at this address.

There is no power going through the monitor. It's in immaculate condition and I am trying you as my last effort before I decide to buy another monitor.

The information on the back of the monitor is as follows:

Novex Electronics.

Model No NC-1414-CL UK.

Power 240V 50 Hz 75W.

Serial No 8310402 190.

Also relevant might be the fact that I have a BBC B computer.

AJ Ennis, Merseyside.

So if anyone out there has the monitor, the knowledge or the book, please forward them to *Express* and we'll pass on the details to him or her.

■ HELP! I can't read

As you stated in issue 102 "write in for further information," I would appreciate information on the Mapsat weather satellite receiving system in order to produce a complete weather station. This may require further modules as you mentioned so therefore information on these would also be appreciated.

David Hedley, Fife.

Grrr. In the Article we made it quite plain that all of this kit came from Maplin and we gave the requisite phone numbers.

For the record and for the final time for a bit Maplin is on 0702 554161 and the £2.45 catalogue full of the info that you require is on sale in WH Smith and other good national newsagents.

■ HELP! TV fixer

If I bought a second-hand TV would it be possible to bypass the unused TV circuits to make a monitor? If so would any TV engineer be able to do it? Would it be costly and are you going to feature it in *Circuit City*?

Sean Lavelle, Manchester.

To answer your questions in the order you put them:

- 1) Yes
- 2) That depends on how good he is, it's not a simple job.
- 3) It would cost a lot of money in man hours but not in parts.
- 4) As the resolution of a TV is on the shadowy side of nob, we've no intention of doing it as a project in *Circuit City*. However, if anyone's already done it, send the details and we'll feature it as a reader's project (Rather like readers wives only replacing the sexism with solder.)

■ TIP! Yuppies watch out for those cells

After three years sterling service, my IBM AT started crashing for no apparent reason. The local computer centre took it in several times and couldn't find anything wrong with it, but suggested that there may be something causing spikes on the ring main that caused the crash. I gradually unplugged everything until the only thing left connected and on was the AT.

Still the crashes happened. My work had to be saved on a ten minute basis and it was taking me three times as long as before to prepare reports and letters.

I gave up trying to find the problem and started to work around it. Out went the old Word Processor (good old Wordstar). In came Protext with its autosave routines. More crashes, but at least I regained a little of my productivity.

Yesterday, the office handyman's son was 'helping' his dad repair a window in the office. "Isn't it a bit dangerous leaving a radio transmitter that close to a computer," he said, pointing at my cellular telephone. I moved it and the computer doesn't crash any more. The 'crashes' were caused by the cell phone's intermittent searches for a cell. Listening to the phone, I can hear the click of a relay or suchlike. When this happens, the

computer bombs if the cell phone is closer than about six feet.

The phone isn't plugged in to the wall socket, so I hadn't considered that it could be interfering with the computer.

After talking to the company that I leased the phone from, I am informed that the cellphone is in fact a very powerful radio transmitter and while it's not harmful to human flesh, it can make computers quite, quite ill.
Raymond Jones, Peterborough, Cambs

That's not the first time that I've heard of electromagnetic radiation making computers bomb, but it's the first time I've heard it attributed to cellular phones.



To put your theory to the test, I put my own cellphone

(PanasonicEF) next to the Macintosh and although the Mac didn't die, it certainly noticed the clicks and the display flickered in fine order. It looks like the rule for the day must be: keep your cell phones, CBs and other assorted transceivers away from working computers.

● I spoke to Norman, the local radio amateur and he added: "It's the radiation from the antenna that is the source of interference so if you can set up a remote antenna away from the transceiver, you won't have this problem."

MICROBYTE

HOME ENTERTAINMENT CENTRE

For the best selection of software, hardware and peripherals for your:
**AMIGA, ATARI ST, COMMODORE C64 + GS, SPECTRUM, AMSTRAD + GX4000, IBM
PC, SEGA MASTER SYSTEM, SEGA GAMEGEAR, ATARI LYNX, PC ENGINE,
NINTENDO GAMEBOY, ATARI 2600 + 7800.**

THERE IS ONLY ONE PLACE TO GO! THAT'S WHY MICROBYTE WERE VOTED
"RETAILER OF THE YEAR"

IN STOCK NOW! THE LATEST SENSATION, THE

★ SEGA MEGADRIVE ★

YOU CAN OWN THE ULTIMATE HOME ENTERTAINMENT SYSTEM

FOR ONLY £189.99, WHICH INCLUDES:

Thunderforce III absolutely FREE (while stocks last!) Microbyte Megadrives are fully compatible with all UK and US cartridges and the latest releases from Japan.

MICROBYTE
129 St Georges Way
The St Johns Centre
LIVERPOOL
TEL 051 707 1931

MICROBYTE
11 Friargate Walk
St Georges Centre
PRESTON
TEL: 0772 882243

MICROBYTE
52 High Street
The Meadowhall Centre
SHEFFIELD
TEL: 0742 56837

NEW STORES OPEN NOW!

MICROBYTE
56 Garden Walk
The Metro Centre
GATESHEAD
TEL: 091 460 6054

MICROBYTE
109 Upper Broadwalk
The Broadmarsh Centre
NOTTINGHAM
TEL: 0602 586454

MICROBYTE
1 Kirkgate Mall
The Kirkgate Centre
BRADFORD
TEL: 0274 308829

MICROBYTE
34-36 County Arcade
LEEDS
West Yorkshire
TEL: 0532 450529/441287

MICROBYTE
424 Grand Parade
The Bull Ring Centre
BIRMINGHAM
TEL: 021 616 1036

MICROBYTE
20 Cleveland Street
DONCASTER
South Yorkshire
TEL: 0302 329999

MICROBYTE
5 Pasture Road
GOOLE
TEL: 0405 763183

MICROBYTE
33 Kirkgate
WAKEFIELD
TEL: 0924 376656

MICROBYTE
46/47 The Greenmarket
NEWCASTLE
TEL: 091 261 9050

**ALSO A NEWLY REFITTED SHOP
AT THE ARNDALE CENTRE, MANCHESTER.
TEL 061 832 1438**

THERE'S ONE NEAR YOU!

Business Technology Centre

PHONE OR FAX: 0282 831900

24-HOUR SERVICE
OPEN: MON - FRI 9.00 - 5.30
SATURDAY 10.00 - 2.00

SEIKOSHA SL92
24 PIN 42K BUFFER 9 FONTS
£299 INCLUDES ON-SITE WARRANTY

DOT MATRIX PRINTERS

9 PIN 80 COLUMN	draft/nlq	£
STAR LC-10	144/36	125
STAR LC-10 colour	144/36	166
STAR LC-10 colour comm 64	144/36	166
CITIZEN 120D PLUS	120/25	105
CITIZEN 120D PLUS comm	120/25	105
CITIZEN PRODOT 9	300/60	265
SEIKOSHA SP2000 (21k buffer)	200/40	199*
SEIKOSHA MP1350	300/50	359*
PANASONIC KXP 1180	192/36	139
MAN. TALLY MT 81	130/26	104
OLIVETTI DM 100SPR	200/30	119*
EPSON LX 400	180/30	135

9 PIN 136 COLUMN		
STAR LC-15	160/45	255
CITIZEN PRODOT 9 x	300/60	345
PANASONIC KXP 1592	216/45	255
SEIKOSHA MP5350	300/50	499*

24 PIN 80 COLUMN		
STAR LC24-10	170/57	195
CITIZEN SWIFT 24	192/64	239
CITIZEN PRODOT 24	200/60	369
PANASONIC KXP 1124	192/63	219
SEIKOSHA SL92 (42k buffer)	240/80	299*

24 136 COLUMN		
STAR LCX24-15	200/67	325
STAR XB24-15	240/80	510*

*ALL DOT MATRIX PRINTERS MARKED WITH A * INCLUDE A ONE YEAR ON-SITE MAINTENANCE CONTRACT.

A ONE YEAR ON-SITE MAINTENANCE CONTRACT ■ ALSO AVAILABLE FOR MOST OTHER DOT MATRIX PRINTERS - ONLY £16.

A FULL RANGE OF SHEET FEEDERS, TRACTORS, ACCESSORIES AND CONSUMABLES ARE ALSO AVAILABLE FROM STOCK - CALL FOR DETAILS.

SWIFT 24 COLOUR
24 PIN PRINTER INC. COLOUR KIT
£269

TERMS

ALL PRICES EXCLUDE VAT.
PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.
CALL TO CONFIRM BEFORE ORDERING.
STRICTLY CASH WITH ORDER.
ACCESS, VISA AND AMERICAN EXPRESS WELCOME.
POSTAL ORDERS, CHEQUES AND BANKERS DRAFTS ACCEPTED.
OFFICIAL ORDERS FROM EDUCATIONAL AND GOVERNMENT ESTABLISHMENTS, CORPORATES AND PLC'S WELCOME.

DELIVERY

ALL GOODS NORMALLY DESPATCHED WITHIN 24 HOURS FROM RECEIPT OF CLEARED PAYMENT - subject to stock availability.

PC's AND LASERS	£15.00	NEXT DAY DELIVERY
OTHER LARGE ITEMS	£10.00	NEXT DAY DELIVERY
SMALL ITEMS	£5.00	4 DAY DELIVERY

WARRANTY

ALL GOODS CARRY MANUFACTURERS WARRANTIES.
ON-SITE WARRANTY AVAILABLE ON MOST DOT MATRIX PRINTERS AND PC's - CALL FOR DETAILS.
TECHNICAL SUPPORT AVAILABLE. E. & O.E.
Goods not offered on trial basis.
Goods are offered for sale subject to our standard terms and conditions of sale - available on request.
WE STOCK MANY MORE PRODUCTS - CALL FOR DETAILS.
LARGE STOCKS OF FLOPPY DISKS AND RIBBONS CARRIED.

NON-IMPACT PRINTERS

		£
SEIKOSHA	OP105 LED (desktop size, takes legal paper)	1299*
STAR	LASER 8	1179*
STAR	LASER 8 DUAL BIN	1599*
H. PACKARD	LASERJET II	1199*
H. PACKARD	LASERJET III	1299*
OLIVETTI	PG 306	899*
CANON	BJ130 INK JET	519

ONE YEAR ON-SITE MAINTENANCE IS INCLUDED IN THE PRICE OF ALL THE ABOVE PRINTERS MARKED WITH A *.

A FULL RANGE OF TONERS, FONTS, MEMORY CARTRIDGES, INK CARTRIDGES AND OTHER ACCESSORIES ARE STOCKED - PLEASE CALL FOR FURTHER DETAILS.

OLIVETTI PG306
LASER PRINTER
£899 INCLUDES ON-SITE WARRANTY

PLOTTERS AND SCANNERS

HITACHI	581	A4/A3 PLOTTER	520
HITACHI	574	A4/A1 PLOTTER	2149*
(includes one year on-site warranty)			
PANASONIC	FX-RS505	SCANNER	919
(with I/F card, cables, IMAGE AND OCR software)			
NISCAN	HAND SCANNER		139
NISCAN	OCR software		189

DRIVES

CITIZEN	OSDD 05A-WD	3.5" 720K in 5.25" KIT	59
CITIZEN	OSDA 39C-WD	3.5" 1.44mb in 5.25" KIT	69
CITIZEN	OSD 76A-WD	3.5" 720K AMSTRAD KIT	59
INTERNAL	5.25" 1.2mb		■
INTERNAL	5.25" 360K		69
JAVELIN	HC20	20mb XT HARD CARD	185
JAVELIN	HC30	30mb XT HARD CARD	199
FILECARD	HC40	40mb AT HARD CARD	229
KYOCERA	KC 20B(s)	20mb XT/AT DRIVE, 3.5"	138
KYOCERA	KC 30B(s)	30mb XT/AT DRIVE, 3.5"	158
KYOCERA	FRAME	5.25" kit for 3.5" hard drives	5

DRIVE CONTROLLERS AVAILABLE - CALL FOR DETAILS.

CABLES AND ACCESSORIES

PRINTER CABLE	1.8 metre	8
PRINTER CABLE	3.0 metre	9
SERIAL CABLE	1.8 metre	■
T SWITCH	2 way serial	18
T SWITCH	2 way parallel	■
T SWITCH	2 way serial crossover	■
T SWITCH	2 way parallel crossover	■
BUFFER	64k in-line	79

ACORN A3000
1Mb RAM KIT
£89

COMPUTERS

ALL OUR COMPUTERS INCLUDE A MONITOR.

COMMODORE

ALL MODELS INCLUDE ONE YEAR ON-SITE MAINTENANCE

		MONO	CGA	VGA	VGA
		£	£	MONO	COLOUR
				£	£
PC 10	SD	485	615	635	725
PC 10	DD	535	665	685	775
PC 20	HD20	675	795	845	945
PC 30	HD20			967	1128
PC 40	HD40			1229	1379

COMMODORE SPECIAL
PC 10 SD INCOME DRIVE & MONITOR
24 MONTHS ON-SITE WARRANTY
MONO EGA MONO COLOUR
£499

SAMSUNG

ALL MODELS INCLUDE ONE YEAR ON-SITE MAINTENANCE

		MONO	VGA	VGA
		£	MONO	COLOUR
			£	£
SPC 3000 SD		483	589	789
SPC 3000 DD		569	659	859
SPC 3000 HD20		739	839	1039
SPC 6512 DD			919	1119
SPC 6512 DD HD40			1109	1309

HYUNDAI

		MONO	EGA	VGA	VGA
		£	£	MONO	COLOUR
				£	£
16TE SD		419	699		
16TE ■		459	759		
16TE HD30		619	919		
286x SD				639	819
286x HD40				939	1119

HYUNDAI 16TE
£419 MONO XT AND MONITOR
HYUNDAI 286X SD
£1099 HD 40 AND VGA MONITOR

PORTABLES

SHARP	4602	DD	789
SHARP	5541	286 HD40	2099
SAMSUNG	S5200	286 HD32	1707*
(includes on-site maintenance)			

NOW IN STOCK
SHARP 8041 & 8081 386 LAPTOPS - CALL FOR PRICES.

SHARP 5541
£2099 HD 40 286 LAPTOP

THIS IS ONLY A SMALL SELECTION OF THE PC'S THAT WE SELL - CALL FOR FURTHER DETAILS.

PHILIPS CM9053
EGA MONITOR
£249 INCLUDES ON-SITE WARRANTY

MONITORS

				Price £
MONO	HYUNDAI	HMM1200	12"	65
MONO	PHILIPS	BM 7513	12"	69
MONO	PHILIPS	BM 7913 FST	12"	80
MONO	SAMSUNG	MA 2671	12"	81
MONO VGA	PHILIPS	BM 7749 FST	12"	107
MONO VGA	SAMSUNG	ML 2611	12"	81
MONO VGA	SAMSUNG	ML 4571	12"	95
MONO A4	SAMSUNG	MP 5671	A4	634
(includes card and software)				
CGA	PHILIPS	CM 8833	14"	199
EGA	PHILIPS	CM 9053	14"	249
EGA	PHILIPS	CM 9073	14"	289
EGA	SAMSUNG	CM 4551	14"	281
VGA	PHILIPS	3CM 9809	14"	325
VGA	SAMSUNG	CJ 4581	14"	281
MULTISYNC	SAMSUNG	CT 4581	14"	340

ALL MONITORS INCLUDE ON-SITE WARRANTY EXCLUDING THE HYUNDAI HMM 1200.

MDA/CGA CARD with PRINTER PORT	45
MDA/CGA/EGA CARD	99
VGA CARD	129

UPGRADES AND ENHANCEMENTS

MDM2400 PC CARD MODEM
£135 INCLUDING SOFTWARE

AKHTER	MDM 2400 PC CARD MODEM	135
FAXTEL	FAX SWITCH (auto switches calls to fax or phone)	69
KEYBOARD 84	84 KEY UK LAYOUT XT	41
KEYBOARD 102	102 KEY UK LAYOUT XT/AT	52
RAM CARD	576K - XT	27
RAM CARD	2Mb - specify XT or AT	93
SERIAL MOUSE	includes DR Halo III software	38
MULTI I/O CARD	XT - RS232/printer/clock/games/floppy	54
I/O CARD	AT - RS232/Printer	54
I/O CARD	XT RS232	19
UPS	250W	199

MEMORY - call for prices of SIMM's, SIP's and DRAM's.

SUPERDEALS

SCHNEIDER	220 AT MONO PC SYSTEM	909
SCHNEIDER	20Mb HARD DRIVE KIT	199
HYUNDAI	360K DISK DRIVE	45
YE DATA	720K DISK DRIVE	49
SHARP	JX 9300 LASER PRINTER	949
SHARP	JX 720 INK JET PRINTER	649
MICROVITEC	1431 DS4 - BBC MONITOR	169
MICROVITEC	1451 MS4 - BBC MONITOR (metal case)	229
MICROVITEC	1456 DL2 - NIMBUS MONITOR	249
MIRACOM	COURIER HST MODEM 9600/ V22bis/V22/V21/V23 & MNP	539
IBM	MODEL 30-021	849
IBM	MODEL 50-061	1599

WE ARE AN ACORN EDUCATIONAL DEALER - CALL FOR PRICES.

Business Technology Centre

HOLE HOUSE FARM, BURNLEY RD, CLIVIGER, LANCS, BB11 3RF
Tel. & Fax: 0282 831900 (24 HOURS)





1. Race through as fast as possible.

FIRE AND BRIMSTONE MICROPROSE

Several of you have written in asking for tips on how to get to grips with *Fire and Brimstone*. In order to provide you with the best advice, we've approached Microprose's own play-testers who came up with these handy gems. Besides a complete solution to level two we have general advice on how to get to grips with the other levels.

GENERAL ADVICE

Stick with the Fireball except when a different weapon is needed for a specific task. This is the most effective weapon.

When you reach the end of a screen be sure to kill any moving enemies before leaving the screen. If you leave them wandering around they will follow you onto the next screen and cause heaps of grief.

Be careful when collecting new potions if both your potion boxes are full. One of them will be detonated to make room for the new potion and you may end up sacrificing a good potion for a useless one.

Try and avoid the Red Knight by leaping over his head. If you're low on energy you can gain extra by taking him on and wagging your joystick furiously left and right.

LEVEL 1 - ALFHEIM

Don't shoot trolls. They walk harmlessly past you unless they are shot at and you can't kill them.

MARK HIGHAM'S



Deal with flying birds by waiting for them to swoop into your line of fire and then hitting them with two fireballs.

To handle pot witches make your way along to the witch until she is about an inch away. Shoot her from here until she changes into a frog. At this point she leaves a potion behind her cauldron. Move close enough to collect it and then quickly jump over the frog before it starts jumping. If you're hit by one of her spells the safest tactic is to find a safe spot and protect yourself until the spell wears off.

LEVEL 2 - VANAHEIM

Walk away from ghosts until they drop down to your level then turn and shoot twice.

Deal with the red birds in the same way as the blue ones in level one. Deal also with level two ogres in the same way that you dealt with level one goblins.

Flying witches must be shot from a distance or their explosion hurts you. If you can't shoot them from half a screen away then just let them fly overhead, avoiding their bombs. Flying witches usually drop a potion when killed.

Wizards can be sent away with a single shot but you must shoot as soon as they appear or else they fire back.

Spikers should be approached carefully. They only hurt when they stab, so wait for them to stab and then run past quickly.

THE 16-BIT TOP TEN

Well, what a surprise, 'Electronic Arts' *Indianapolis 500* has gone straight into the number two slot, and I'll bet that by next week it's knocked *F-19* off of the top slot. The bad news is that *Indianapolis 500* was programmed in the States and there are no plans to release an ST version.

For the week ending 3rd November.

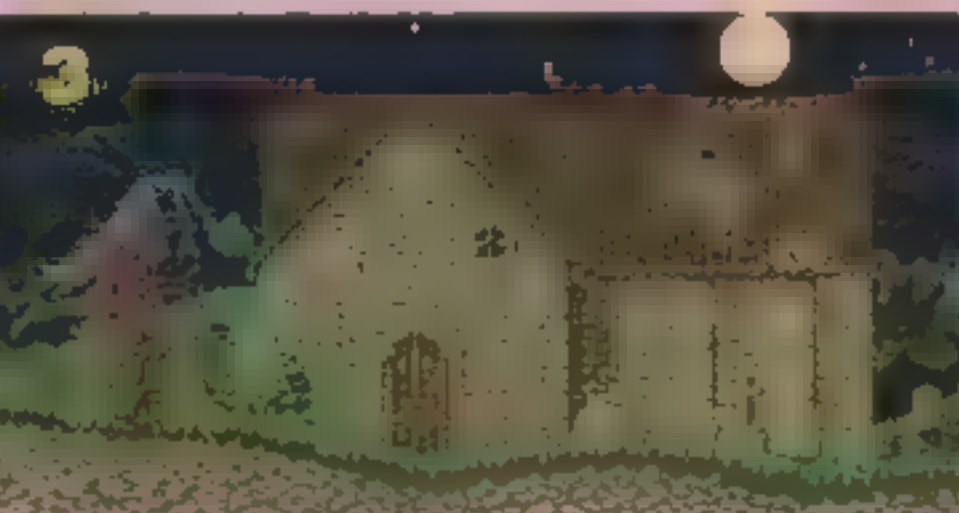
1 <i>F-19 Stealth Fighter</i>	MICROPROSE	ST/AG/PC
2 <i>Indy 500</i>	ELECTRONIC ARTS	AG/PC
3 <i>Kick Off 2</i>	ANCO	ST/AG
4 <i>Team Yankee</i>	EMPIRE	ST/AG
5 <i>Turrican</i>	RAINBOW ARTS	ST/AG
6 <i>Cadaver</i>	MIRRORSOFT	ST/AG
7 <i>Boulder Dash Const Kit</i>	WICKED	ST/AG
8 <i>Supremacy</i>	VIRGIN	ST/AG
9 <i>The Spy Who Loved Me</i>	DOMARK	ST/AG/PC
10 <i>Wheels Of Fire</i>	DOMARK	ST/AG

ST-ATARI ST AG-COMMODORE AMIGA PC-IBM PC OR COMPATIBLE
Chart compiled by GALLUP, European Leisure Software Publishers Association

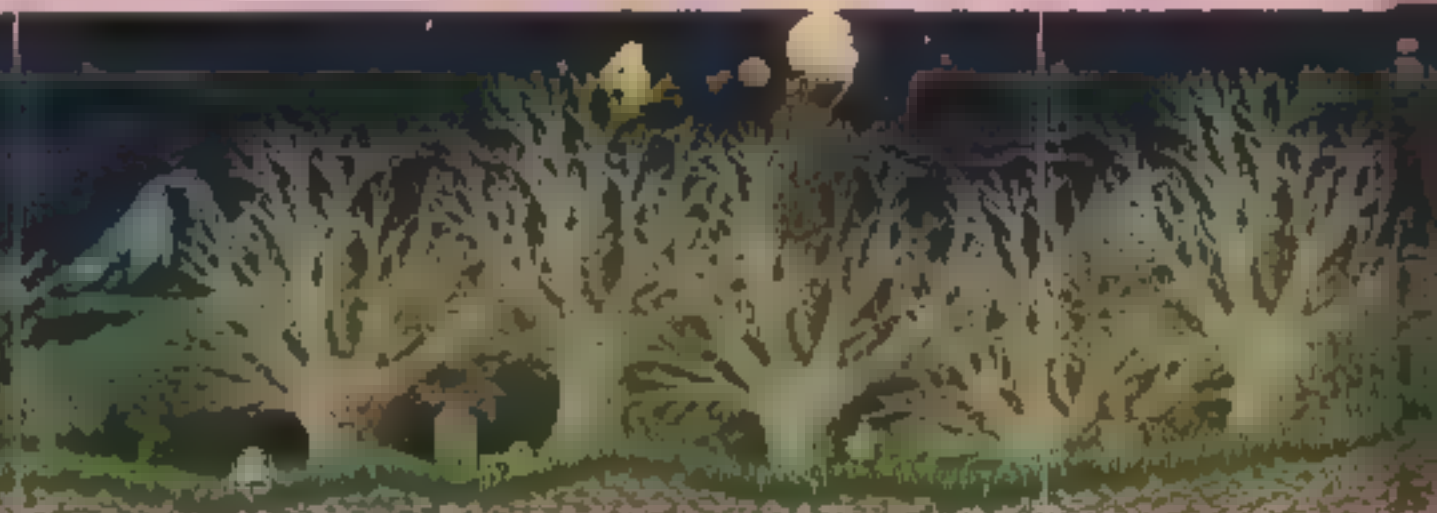
PLAYING TIPS: Hot ho



2. You can often walk straight through this screen without harm. When the skull jumps it ignores you so long as you don't stop. If the birds interfere, shoot them twice and keep an eye on the skull. It's possible, albeit difficult, to shoot the skull and make it bounce off the screen.



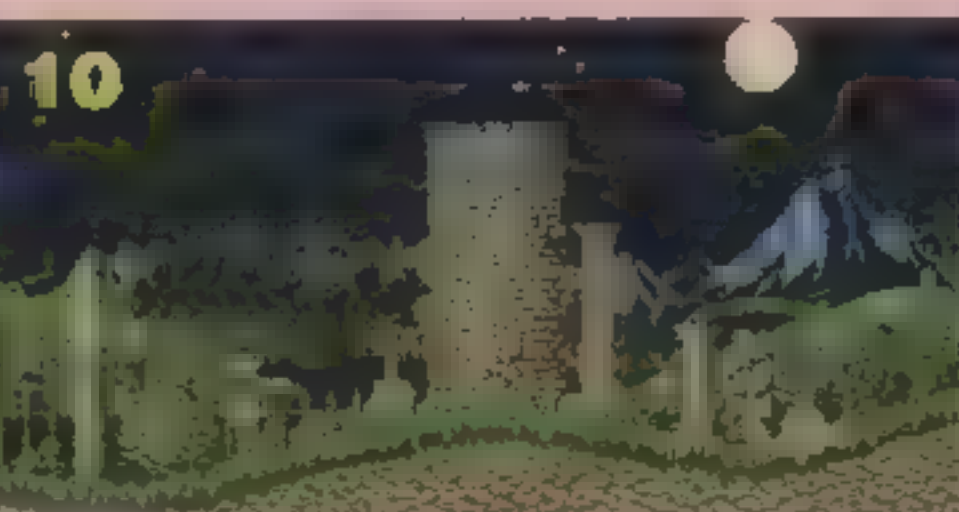
3. Blast cupid four times to get a high-jump potion. If you haven't already got high-jump ability, detonate it going onto the next screen.



4. Immediately you enter this screen jump up and fire when in the air. You ought to be able to get two shots into the Reaper before he fires back. Once he starts attacking, concentrate on avoiding the drops of blood. You only need to watch the Reaper occasionally to avoid contact with him. Keep firing at the same time as jumping over or ducking under the blood drops. When you hit the Reaper nine times he dies and drops a potion. Take the Orb for bonus points.



9. The Red blinker looks through the hole in the building. He's harmless and helps you rather than hurting you. Stand in front of his hole and pull the joystick down to restore your character to full health. Walk past the Pulse mound but try to avoid its bombs.



10. Access to the hidden room is on the top of the brick tower. Jump on the two pedestals to get up there, but before entering the hidden room stand on the higher pedestal, face right, jump and fire until the book drops down. Make sure you collect the book before entering the secret room. After collecting the key in the secret room the exit is found on the fifth tower from the left - the tallest on the right-hand side.



11. This is the easiest screen in the game. Shoot Cupid four times for a High-jump potion. If you need another, walk back off the screen and come back on again.



12. Jaws is harmless. Jump through him and he won't do any harm.

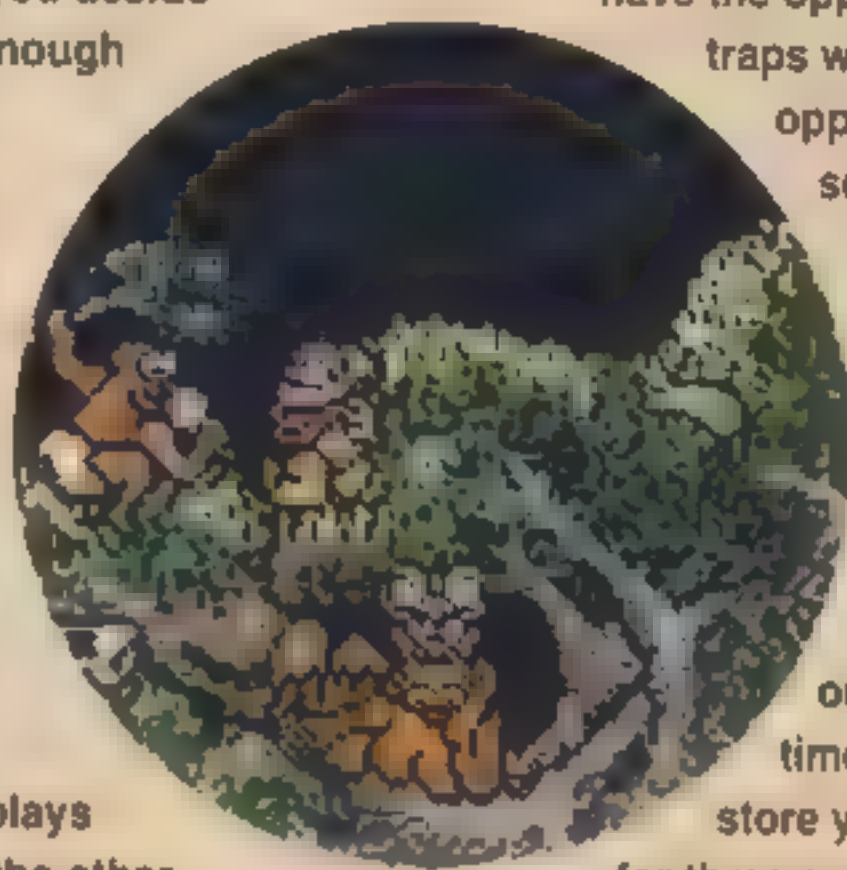
FLIP-IT AND MAGNOSE

MIRRORSOFT • £24.99

A spaceship lands in some deserted part of the world. Two elf-like creatures step forth and your quest begins. The inhabitants of Mars have run out of water and with their planet surface turning to dust they've decided to come and steal precious water from Earth.

Despite having the sort of scenario usually associated with shoot-'em-ups, *Flip-it and Magnose* is in fact a cutesy game. Before you decide you've already seen more than enough cutesy games over the last few months, *Flip-it and Magnose* boasts some unusual twists and turns. For a start the game features simultaneous two-player action and secondly it's bursting with puzzles to solve.

There are six different levels and each is played as a scrolling vertical strip of platforms. The screen is split vertically in half and one player plays on one side of the display while the other plays on the opposite side. In a one player game the second character is played by the computer. Your task is to leap up and down the platforms finding a way of prising valuable water out of the animals which reside on the different platforms. To obtain water you need to give an item to one of the animals. He will give you something else in return and you take this to another animal who then spits out a drop of water. Provided you've collected a water container earlier on in the level, you can hold the water, otherwise it's wasted.



Each time you collect a drop of water you need to carry it back to your spaceship and drop it. A varying number of water droplets must be collected and carried individually to the spaceship before a level is complete.

Since both players play the same level, you regularly meet your opponent as you trot up and down the level. Since this is a contest you don't help each other but instead do everything you can to hinder each other's progress. In between levels you have the opportunity to buy yourself special traps which you can set for your

opponent. Some freeze him for a few seconds giving you the chance to steal an object you want, others enable you to rob him of any water he might be carrying.

Annoyingly, collecting extra objects isn't as easy as it ought to be. You have four stores available but you can only pick up or drop items from one store at a time. To change the currently active store you hold down on the fire button for three seconds, then move the joystick left or right to select the store. During this time your character is incapable of moving and you can be booted round the screen by your opponent if you aren't careful.

Colourful sprites and detailed backdrops complement an addictive challenge. A few more puzzles to solve would have extended the excitement of the game further. Unfortunately, *Flip-it and Magnose* works best as a two-player game, so if you don't have any friends you'd be better off sticking with *Rainbow Islands*.

Level one is set inside a jungle. To obtain those precious drops of water you need to give items to the jungle creatures who then reward you with other goodies.

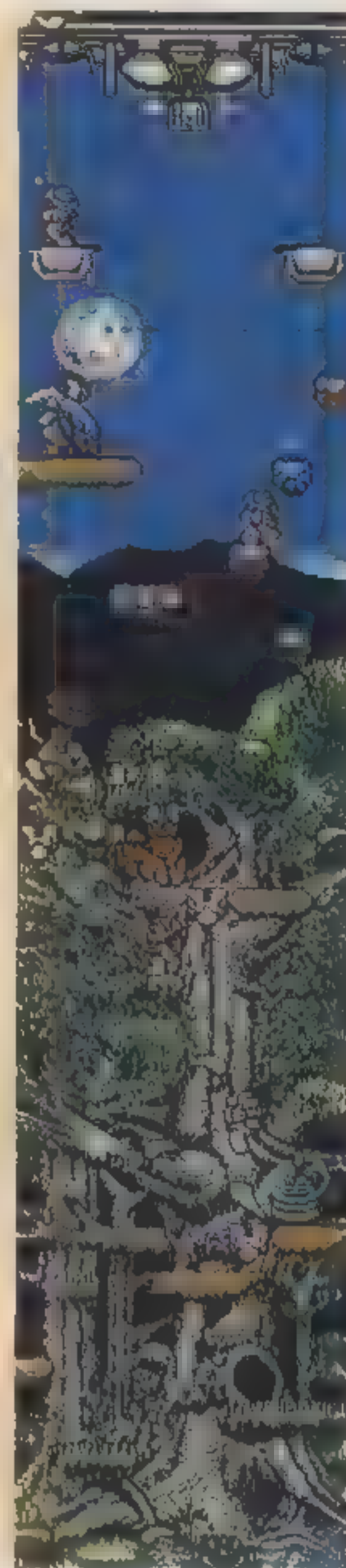
1. Your first step is to collect a water container. Without it you cannot hold the water

2. Pick up the nutcrackers and take them to the ape

3. The ape spits a bug in front of you. Collect the bug and take it to the frog

4. Before you give the bug to the frog, put down the water container. Now hand over the bug and the frog spits a drop of water into the container.

5. Carry the container all the way back to your spaceship where you're efforts are acknowledged. Only another five more drops to collect and you can be off to the next level.



Hot hit on Fire and Brimstone



you ought to be able to see the skull. Hacking everything that comes for you.

6. Similar to screen two. Watch out for the skull all times.

7. Shoot everything you see and remember to collect the fruit.

8. Pick up the goblet. Don't try to walk by the Spiker because it isn't possible. This Spiker is demented and stabs much faster than any other. Jump onto the chair. There's a spring in it which propels you into the air, push right and you can dodge the Spiker.



12. Jaws is harmless. Jump through him and he won't do you any harm.

13. Stay at the left-hand side of the screen shooting fireballs until all the eyeballs are dead.

14. Take the fruit. Avoid the Stump creature by timing it correctly.

15. When the stones are on the ground it's safe to touch them or even walk behind them. All you must do is avoid them when they drop down. Keep well away from the sword on the right-hand side of the screen and never jump in the air. When you first enter this screen keep walking (under the stones as they jump) until you are far enough into the screen for the stones to have jumped clear over you. Stop, turn, shoot. Walk up close to the stones and wait for them to jump again, then walk under them again, turn and shoot. You should be able to keep up a rhythm like this that keeps you safe. There's no time limit and eventually they die.

THE CONSOLE ZONE

SEGA MEGADRIVE



• Amazing graphics from Starcruiser on the Sega.

Star Cruiser is the latest release from the prolific Megadrive developer, NCS Corp. in Japan. A four-megabit 3D sci-fi game, *Star Cruiser* costs 7300yen (£29).

PLAYING TIP

Martyn Rice from Basingstoke has sent in this *Revenge Of Shinobii* cheat: on the options screen if you put the shuriken to zero and wait about 30 seconds they will merge together and give you unlimited shurikens.

SEGA MASTER SYSTEM PLAYING TIP

Listen to *Roseidon Wars* 3-D sounds by waiting for the title screen then pressing [Up] [Left] [Left] [Down] [Down] [Down] [Right] [Right] [Right] [Right]

NINTENDO GAMEBOY

Crime does not pay, but you'll have to pay 3500 yen (£14) if you want to catch criminals on your Gameboy. *Scotland Yard* is a multi-stage detective game from Toei Animation Co and Otto Maier Verlag Ravensburg AG. Just make sure nobody steals it from you.

PLAYING TIP

Jefferson Lee-Paul Boss, Steven Cheung, Stephen Jacob, Jason Baziliauskas, James Nicols and Aza (phew!) have sent in a list of words which can be used in connection with that brilliant puzzle game *Tetris*...

SLAMDOWN: Pressing [Down] when the shape is at the top of the screen so that it fits perfectly into the pile - achieving maximum drop points on Game

• **B.FLUNKER:** Placing a shape wrongly so that it disturbs the pattern of the pile. You die as a direct result. Associated with higher levels (from 7 to Heart 9).

• **PICASSO:** As above, but you do not die as a direct result. Associated with lower levels (below 7).

• **LAYING EGGS:** Waiting for a certain type of block, normally a 'Four-Long', so you can complete a Tetris.

• **DIAPER:** As above, but the pile is near the top of the screen and the shape needed isn't coming. So to save yourself from a sudden death you place another block in the gap in the pile. The original block you needed then shows its face in the Next Box.

• **GRIM REAPER:** The progression in speed on each block without moving them to commit suicide.

Your weekly guide to console gaming with Richard Frederick.

NEC PC ENGINE PLAYING TIP

Become an invincible *Dungeon Explorer* using the passcode DEBDE
Type DEBDA, simultaneously hold down [Button I] and [Button II]. Ignore the Password Error message, press [Button II] and choose your character

ARE YOU GOOD ENOUGH?

Can you meet the Console Zone challenge? We're looking for the best video game players around. Send us your top game scores on the Megadrive, Gameboy, NES, Game Gear, Sega Master, Lynx and Neo-Geo to: Console Zone, *New Computer Express*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW - or fax 0225 446019.

GAMEBOY

Batman	424,060	Peter Worth
Super Mario Land	474,170	Jay Lee
Tetris	396,064	Peter Worth

MEGADRIVE

Eaawt	277,900	Alex Taylor
Forgotten worlds	1,843,000	Wai-Yin Man
Ghouls'N' Ghosts	750,000	Tim Walker



• A bit of the action from Scotland Yard.

• **CAVALRY:** The same block appearing 3-4 times in a row.

• **RAFTER/BRIDGE:** Stacking the blocks so there is a large empty gap in the pile.

• **MAFIA:** Returning a Tetris to Player 2 after they've just given you one on a two-player game.

• **WARHOL:** Ending Game B with a Tetris.

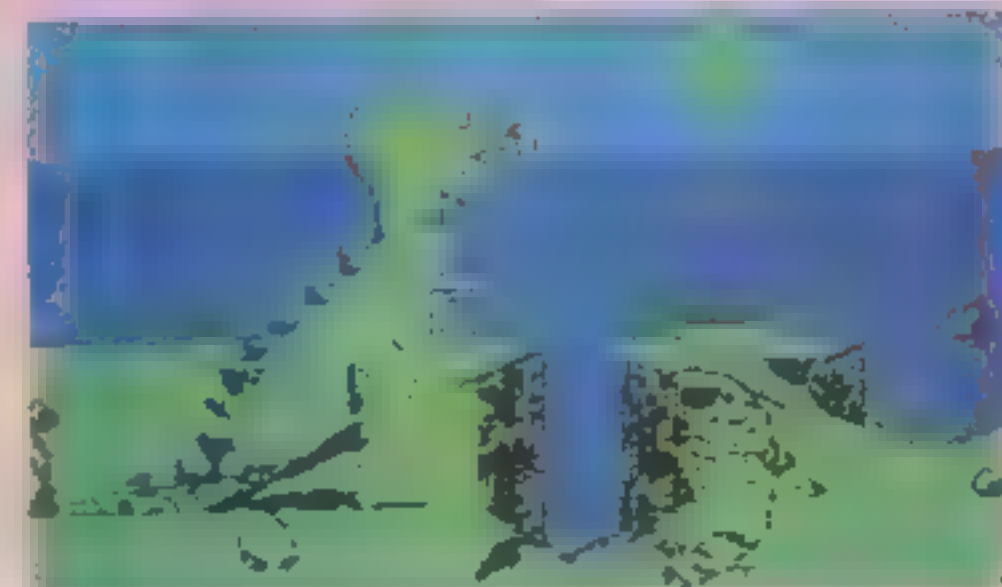
• **JAMMER:** Sliding blocks into awkward positions to fit without the gaps.

REACHING FOR THE STARS: The rocket ship screen when over 100,000 points have been reached.

Have you got any neat nicknames for tactics in your favourite video games? Send them into us at the usual address. In the meantime, Jefferson Lee-Paul Boss is interested in setting up a Gameboy Fanzine. Contact him at 15 St. Peters Road, Huntingdon, Cambs PE18 7AA. Good luck with the Gamezine, Jefferson, and keep us informed.

NINTENDO ENTERTAINMENT SYSTEM

Data East has released a sports game with a novel twist. *Caveman Games* is set in prehistoric times - two million years BC to be precise. A conversion of a Dynamix/Electronic Arts C64 game, this one-to six-player sports-sim features six tongue-in-cheek events. *Dino-Vaulting* is not for the weak while only the fastest runners will survive the *Sabertooth Tiger Race*. *Dino Race* has you riding a two-legged dinosaur. Never play with fire, especially if you can't even get one going in the *Firestarting* challenge. Feminists will be appalled by the final two events: *Mate Toss* and *Clubbing* which has our hero either bashing his 'girlie' with a wooden club or throwing her around the screen.



• The appalling sexism of neanderthal times. Things have marginally improved since then.

PLAYING TIP

Start any *Burai Fighter* stage with these passwords:

- Stage 2: BALL
- Stage 3: JOKE
- Stage 4: DOLL
- Stage 5: PAIL
- Stage 6: GOAL
- Stage 7: GAME

ZONE COMMENT

What are your favourite video games? Have you found any hidden features in the latest releases? We want your views on any console gaming subject. Write without delay to the usual address.

ATARI LYNX PLAYING TIP

Nicholas Wells has sent in these handy hints to *California Games*...

• **BMX:** Simultaneously press [A] and [B] for a super jump.

• **SURFING:** Gain speed by doing small jumps, then go for a massive jump. It is possible to do five spins during a jump.

• **HALFPIPE:** To get 999 press [A] just as you go on the halfpipe, keep it pressed, then once your board is fully turned release it.

FOOTBAG: To get a high score simply kick up your sack then do a few spins.

ck up your

ADVANCED TACTICAL FIGHTER II



ADVANCED TACTICAL FIGHTER II

Strategic Frontiers Admin

...in the ...

Atari 5200 *Longest Game* \$29.95

Trade Centre Watchman Rob

6. *Journal of the American Medical Association*, 1997; 277: 1001-1005.



THOUSANDS OF BARGAINS FOR EVERY COMPUTER!

ALL FORMATS COMPUTER FAIRS

Saturday 15th December 1990 10am - 5pm

Saturday 2nd February 1991 10am - 5pm

At:

The New Hall of the Royal Horticultural Society
Greycoat & Elverson Street - Westminster - London

Tubes:

Victoria - Pimlico - St James Park
Admission £3.00

STANDS ONLY £75

Book With:

JOHN RIDING - 0225 447453
MIKE HAYES - 0457 875229

Tickets:

Avoid queuing advance tickets from
Mike Hayes - 8 Midgrove - Delph
Oldham - OL3 5EJ - Tel: 0457 875229
£3.00 each (Cheque - Visa - Access)



MEL CROUCHER - COMPUTER FAIR LINE
0898 299399
3 mins of mind blowing entertainment

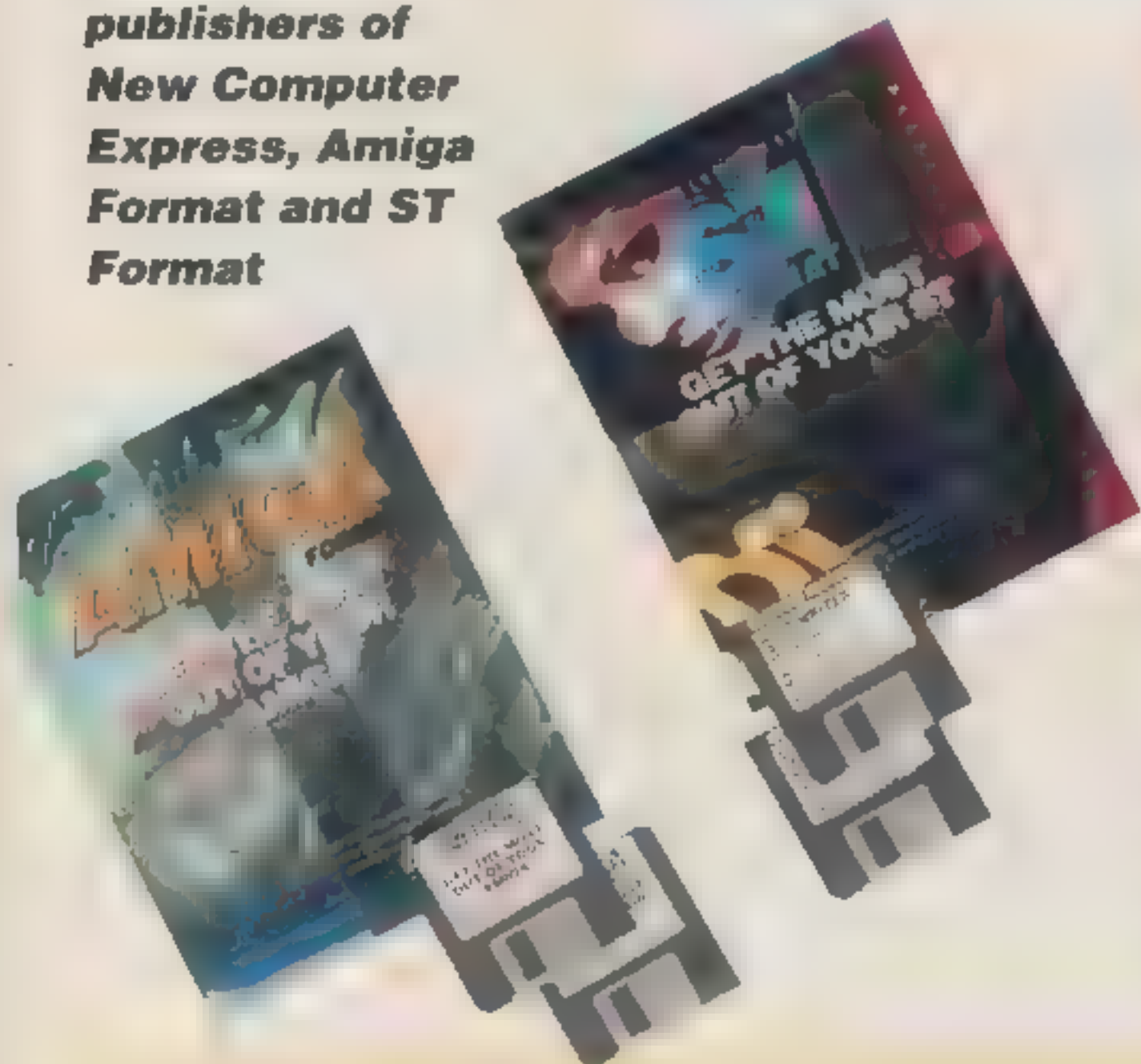
SAM COUPE HOTLINE
featuring Alan Miles & Bruce Gordon
0898 299380

THE HOTTEST GAMES SECRETS
0898 299380
MEGATIP

TONY TAKOUSHI CONSOLE LOVE
0898 299390
games tips news gossip

Two new brilliant books from the publishers of New Computer Express, Amiga Format and ST Format

If you're the proud owner of a Commodore Amiga or Atari ST, then the *Get the most out of your Amiga* and *Get the most out of your ST* books are invaluable tools for you.



THE ONLY WAY TO GET THE MOST OUT OF YOUR AMIGA & ST

In 172 information-packed pages it aims to provide advice on all aspects of the Amiga and ST scene: what software to buy, how you can get it free through the PD libraries, how to solve those tricky technical problems, where you're going wrong with a game you can't beat.

You can get all this for the bargain price of only £9.95. Alternatively, for a mere £4 more you can also have two 880K disks absolutely packed with the most useful utilities and the most entertaining programs, carefully picked to be the essential collection from the PD and elsewhere. Start getting the most out of your Amiga and ST!

BOOK ORDER FORM

- ☐ Yes, I would like to order _____ copy/copies of
GET THE MOST OUT OF YOUR AMIGA at the recommended price £9.95
(Please add £1.45 per copy to cover p&p.)
- ☐ Yes, I would like to order _____ copy/copies of **GET THE MOST OUT OF YOUR AMIGA** plus two disks at the recommended price of £13.95.
(Please add £1.45 per copy to cover p&p.)
- ☐ Yes, I would like to order _____ copy/copies of
GET THE MOST OUT OF YOUR ST at the recommended price of £9.95
(Please add £1.45 per copy to cover p&p.)
- ☐ Yes, I would like to order _____ copy/copies of **GET THE MOST OUT OF YOUR ST** plus two disks at the recommended price of £13.95.
(Please add £1.45 per copy to cover p&p.)

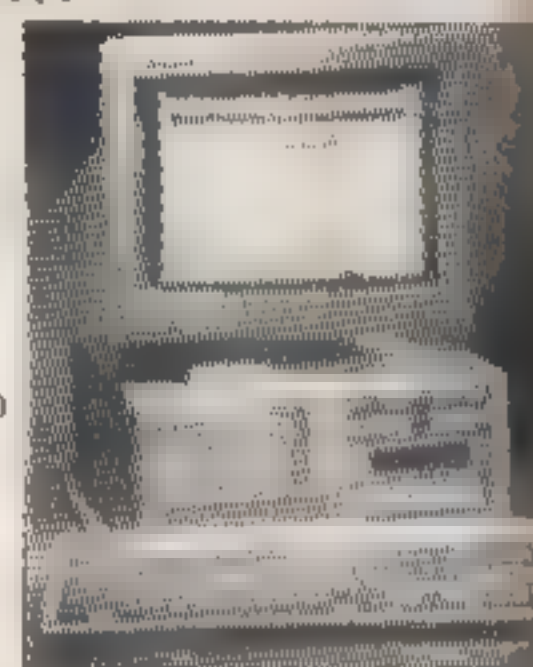
If paying by cheque, please enclose payment with this card in a sealed envelope addressed to:
Get the Most...Book Offer, FREEPOST, Future Publishing Ltd, The Old Barn, Somerton,
Somerset TA11 7BR. (No stamp is needed if the letter is posted in the UK.) Please allow
up to 28 days for delivery.

TERRY COWARD MARKETING

PC/AT 286-

Made by SAMSUNG. Model SPC 6512 currently selling everywhere at £1150.00p plus VAT. Features include 80286 processor @ 12MHz, 1Mb On-Board RAM (Expandable), Twin High Density Floppy Disk Drives, (IX 5.25" & 1 x 3.5"), 102 key UK Keyboard, Maths co-processor socket, 3 x 16 bit expansion slots, 2 x 8 bit expansion slots, hard disk controller, battery back-up, Optima/1024 VGA Graphics Card, MS-DOS 3.3, GW-BASIC & ex-display 12" Samsung VGA black/white monitor. This machine is very powerful & well-specified. Again, limited stock so order early.

£699.95



XT compatible
12Mhz
640K RAM
5.25" or 3.5" drive
20Mb hard disk
2 serial
1 parallel port
Monochrome monitor
Enhanced keyboard

HARD DISK FROM £125
20MB
SAMSUNG MONITORS
£125 14" CGA
£150 14" EGA
£230 14" MULTI

Ring for details
Ask for
Computer Components
Catalogue

£499.00

Part-exchange welcome

Tel: 0865 - 66471
Mobile: 0831 - 126116

Name: (BLOCK CAPITALS PLEASE)

Address:

Postcode:

Telephone:

I enclose a cheque for £

Made payable to Future Publishing Ltd

My credit card number is:

Expiry date:

Signed:

I wish to pay by Access/Visa*
(*please delete as appropriate)

everywhere at
2MHz, 1Mb On-
Drives, (IX 5.25"

FROM £125
MB
MONITORS
1" CGA
1" EGA
1" MULTI

details
for
components
ague

ne

6

your Amiga

OF YOUR
ST

all aspects of
n get it free
problems,

atively, for a
packed with
ns, carefully
re. Start get-

s/Visa*
pprate)

MAGICAL MULTIMEDIA

Publishing on CD-ROM
is not only a possibility,
but it actually works.
Ian Widdow checks out
an American product
which successfully puts
the theory into practice

No doubt CD-I will be fabulous when it finally arrives. But, that aside, there has not really been anything available so far which actually consolidates CD-ROM's place in the great scheme of things as a useful addition to your computer setup.

You could have all of the Microsoft programs available once. Big deal. Or access the directory of United

American company has produced a product which finally proves that publishing on CD-ROM is not only a possibility but actually works in practice.

The company is called Discovery Systems and its product - *Nautilus* - is being described as "the first multimedia subscription service". Currently only available for the Macintosh (although a beta PC version is expected to be complete within four or five months), \$12 a month buys you a regular multimedia magazine on a CD-ROM.

ONLY IN AMERICA...

In America, novel methods of information dissemination are commonplace: fax newspapers, for instance, are a large and growing market. But *Nautilus* is the first CD-ROM-based periodical to surface. And while other companies are now showing interest in the idea, Discovery Systems is the first to actually produce a working, saleable product.

According to Marsh Williams, the company's Vice President of Business Development, CD-ROM presents the single most cost-effective way to distribute a large volume of information. And the volume of information distributed by *Nautilus* is certainly large - the latest issue of the disk contains over 414 Megabytes of data (more than 285 floppy disks-worth).

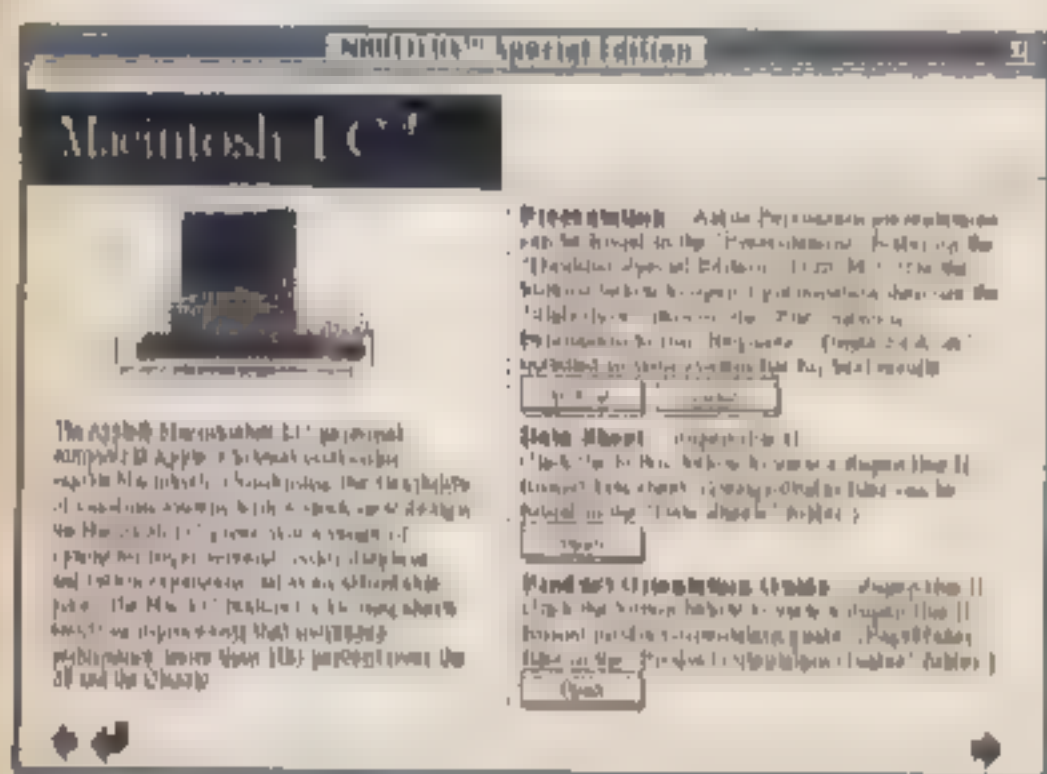
Williams says that he considers the real beauty of a system like *Nautilus* to be its interactive quality: whereas you can only read one reviewer's opinion of a

product in a traditional magazine, *Nautilus* allows you to read the review and then actually try a demo version of the package. And in the future, he hopes that this idea will be taken one step further: subscribers will be able to purchase working copies of a program by just phoning the software house. In return for your credit card details, the company would provide you with a 'key', which would allow you to access a fully-featured version of the program which had been encoded on the CD-ROM.

"We don't believe in 'Shovelware' - cramming the disk as full as possible"

Although this is still in the development stage, it shouldn't be long before it is actually happening.

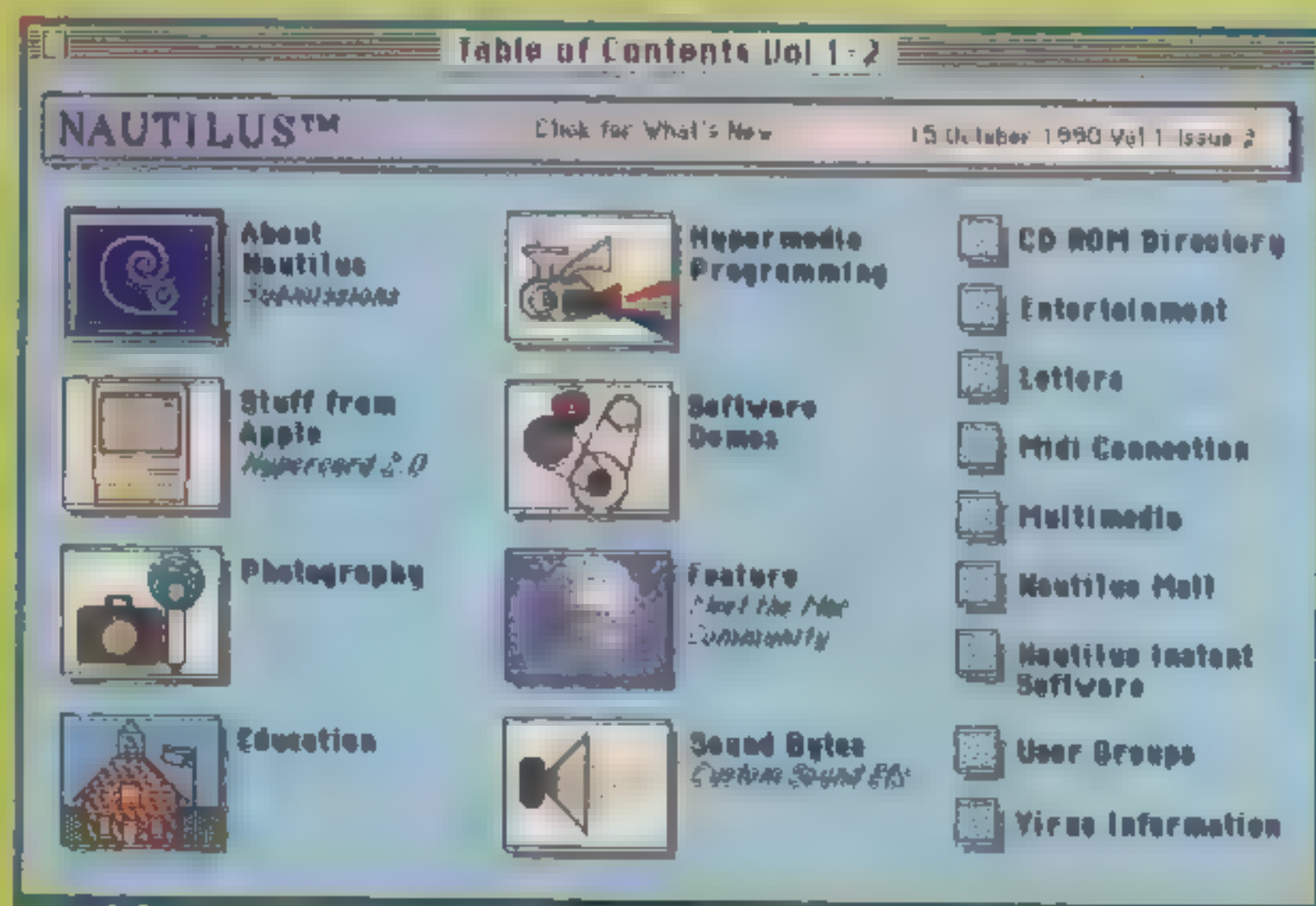
A team of seven staff produces the *Nautilus* disk each month, performing tasks like checking the software out on a range of machines (the disk will run on anything from a 2.5Mb Mac Plus upwards), finding new material for inclusion, designing title screens and writing



• Mac Ix86: Grab from the HyperCard stacks which were shipped on the special edition disk, on the same day that the Macs were launched.

Kingdom Official Publications (a list of everything published and distributed by Her Majesty's Stationery Office). Wow! Apart from these mind-blowing uses, however, the CD-ROM scene has been somewhat lacking in interest. But, all this is now set to change, as an

THE MAG ON YOUR MAC...



• The *Nautilus* 'contents page' - a Supercard front-end with clickable buttons which launch sub-applications. Supercard is the applications generator underpinning and cementing all 414Mbytes of the CD-ROM



• Easy - an interactive kiosk is one of those point of sale or shop window information guides you simply push a touch pad to explore. It's an area where CD-ROM is fast replacing laserdiscs.

reviews. In addition, they have a number of external, contributing 'editors' who write sections like the public domain software section, the multimedia area and so on. And all of this happens once every 28 days - with occasional extra disks thrown in. For instance, when Apple announced the new Macs on 15 October 15, a bonus *Nautilus* disk was shipped to subscribers on the same day, containing full details of the new machines.

SO WHAT DO YOU GET?

Your CD-ROM arrives in a normal envelope, with no special padding - which is a little risky for transatlantic shipping; one of our disks was broken when we received it and we had to ask for a replacement. Installation is a simple matter of putting the disk into the drive and copying the 'shell', which is what the *Nautilus* team call the main application, onto your hard disk. Then just double-click and away you go.

The first screen is like the contents page of a magazine; selecting any of the icons takes you to the corresponding section of the disk. Available options range from 'Stuff from Apple', which contains the latest versions of the System, Finder and so on, to full multimedia presentations. And because the CD-ROM has so much storage space, there is no limit on the sound effects or the complexity of the graphics.

The multimedia element of *Nautilus* is used to full effect throughout the publication. For instance, the letters page consists of letters to *Nautilus* displayed on-screen in the usual way. But to 'read' the replies, just click on the appropriate icon and they are spoken to you, rather than displayed. (Of course, this means that you have to be able to stomach listening to a sincere American voice for minutes on end - but then, there's no gain without pain.)

The disk is strong on the use of CD-ROM data being mixed with standard audio tracks. So, for exam-

ple, on issue two there are two soft jazz pieces which play directly from the CD, while the computer displays a sequence of appropriate images (in this case mountain scenes) at the same time.

Because the disk can work under MultiFinder, you can listen to the music while you're doing something else on your machine (I'm listening to one of the jazz

classical pieces and operas, while the computer provides a running commentary. Just think - now you can read a translation of those awful Italian operas while you sit suffering listening to them!)

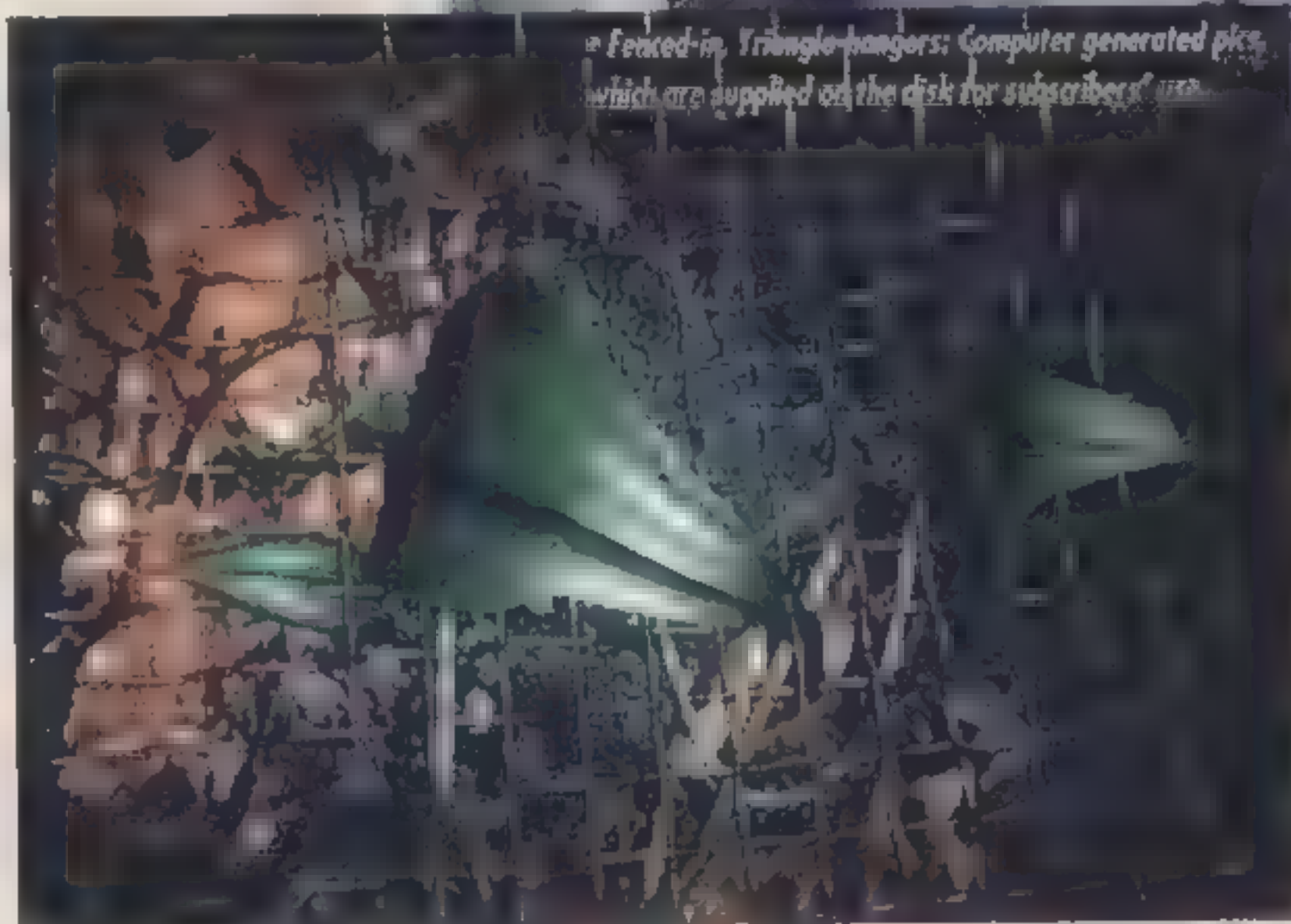
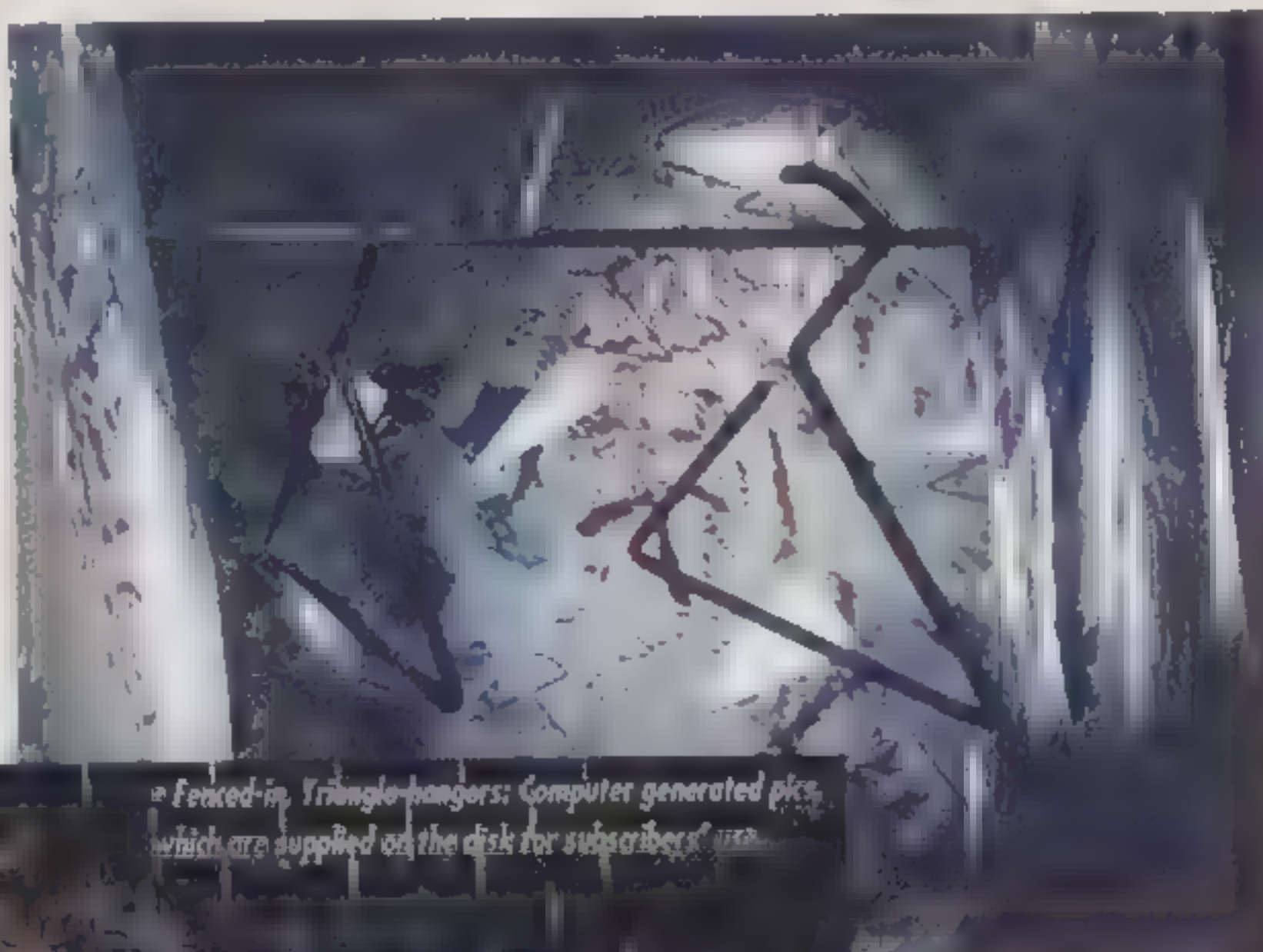
AND WHAT OF THE FUTURE?

One thing which *Nautilus* is not trying to be is a

vast collection of public-domain software. There are, says Williams, already enough people selling CD-ROMs full of PD and shareware. So instead, *Nautilus* will contain just a few selected applications, which will also be reviewed on the disk. That way, users do not have to plow through megabytes of software which won't even run on anything newer than a Mac Plus - all the software on the disk has been checked on a number of different machines. Likewise, says Williams, "We don't believe in 'Shovelware' - cramming

the disk as full as possible". The team's philosophy, he says, is that they would much prefer to send out a disk with 400Mb of carefully checked material than 600Mb of haphazardly gathered-together stuff. And it's a philosophy which is obviously succeeding: so far, the company is seeing a 15-20 per cent increase in subscriptions per week, and that figure is likely to rise even faster as the product gains wider publicity.

With free programs, entertaining presentations and demonstration packages from major software houses, it's almost impossible not to find something to like on each disk - and for \$149.40 for a subscription from the UK, it's hard to find a reason not to subscribe. If you have an Apple Macintosh with a CD-ROM drive and would like to try a sample copy of *Nautilus*, they will send you one free of charge. Just telephone them on 0101 614 761 4111, fax on 0101 614 761 4110, AppleLink as NAUTILUS or CompuServe 75140,2712. If you own a PC, then there is nothing available for you yet - but give it five or six months...■

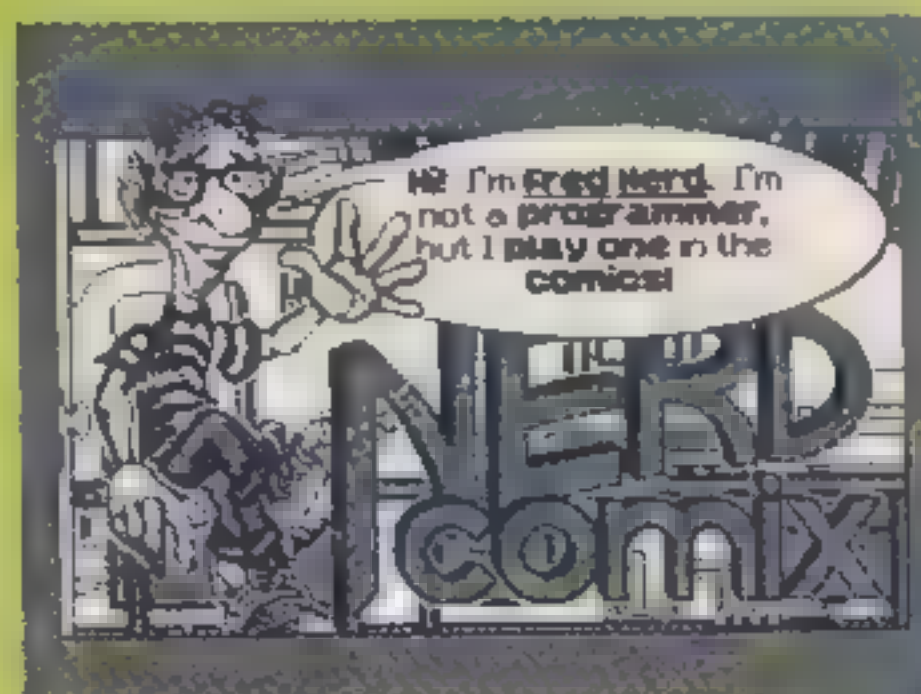


tracks while writing this). And on issue one, there was a ten minute version of Mendelson's Overture to Fingal's Cave, while a quiz on the composer ran on the computer. (This is, in fact, a field in which Macintosh CD-ROM is becoming prominent; a company is producing CD-ROMs which play versions of a number of

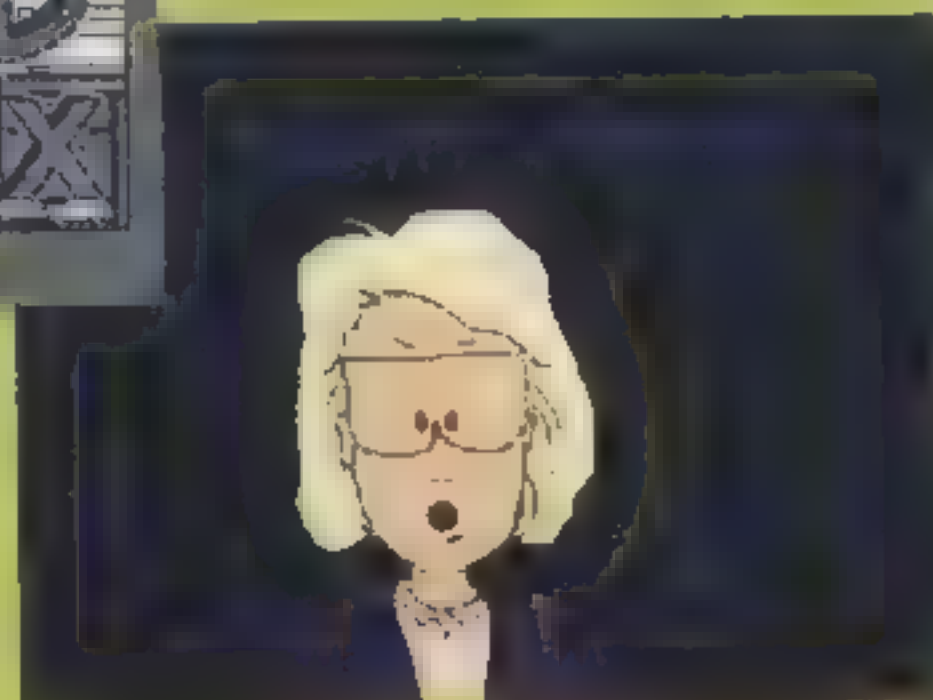
THE MOVIE ON YOUR MAC...



• The TapeOp demo: a neat on-screen animation and audio editor allowing you to record your own sequences from the wealth of audio-visual material on hand.



• Comic factory: Just one of the demos of forthcoming commercial products



• A newsreader from Nerd News: Nautilus is an ideal vehicle for do-it-yourself animations.

AMIGA SUPERMARKET 2

SUPERSAVERS

AMIGA SCREEN GEMS PACK

- A500 WITH 1.3 WORKBENCH
- 512K RAM & BUILT-IN 3.5" DISK DRIVE
- MOUSE + ALL MANUALS & CABLES.
- CONNECTS TO ANY TV - MODULATOR INCLUDED. NOTHING ELSE NEEDED - JUST PLUG IN & SWITCH ON.

- **PLUS** FREE SOFTWARE:-
- BACK TO THE FUTURE II
- DAYS OF THUNDER
- SHADOW OF THE BEAST II
- KNIGHTBREED
- DELUXE PAINT II
- **+ FREE WEEKEND HOTEL ROOMS FOR 2***
- **+ FREE INTRODUCTORY VIDEO WORTH £14.99**

ONLY £369.99 POST FREE

ACCESSORIES PACK WORTH £30+ ONLY £19.99 WHEN PURCHASED WITH AN AMIGA. COM-
PRISES:- 10 SONY DISKS IN LIBRARY CASE, MICROSWITCH TURBO JOYSTICK, A4 MOUSE MAT & DUST COVER. * Please ask for full details.

AMIGA A500 SCREEN GEMS + PHILIPS CM8833 MONITOR

Includes Complete Screen Gems pack as above.

Monitor spec.

- 14" SCREEN
- MEDIUM RESOLUTION
- OVER 4096 COLOURS
- RGB & VIDEO INPUTS
- TWIN STEREO SPEAKERS
- STEREO HEADPHONE SOCKET
- GREEN SCREEN SWITCH
- CONNECTING LEAD

ONLY £599.99 POST FREE

Add only £24.99 for 1meg version.

AMIGA A500 SUPERSAVERS

When you buy an Amiga, you can purchase any of the following at these extra special prices - but only at the time of purchase of an Amiga.

- 3.5" External 1Meg drive..... £54.99
- 1/2meg upgrade (no clock)..... £24.99
- 1/2meg upgrade with clock..... £29.99
- MARCONI TRACKERBALL £49.99

AUDIOMASTER III

AUDIOMASTER III - THE LATEST & BEST SAMPLING SOFTWARE FOR THE AMIGA IS NOW AVAILABLE. BUY IT WITH THE BEST AMIGA STEREO SAMPLER AVAILABLE (TRILOGIC'S MK2 SAMPLER). COMPLETE PACKAGE COMPRISING AUDIOMASTER III, STEREO SAMPLER MK2, LEADS & INSTRUCTIONS - ONLY £99.99 - A SAVING OF £5.00. ALSO AVAILABLE SEPARATELY: AUDIOMASTER III - £64.99 TRILOGIC STEREO SAMPLER MK2 - £39.99

**1 Meg A500
SCREEN GEMS PACK
WITH 1meg RAM fitted.
ONLY £394.99**

**1 Meg A500
SCREEN GEMS PACK
WITH 1meg RAM + 3.5"
EXTERNAL DRIVE
ONLY £449.99**

FREE VIDEO !

Our specially produced & very helpful "INTRODUCTION TO THE AMIGA A500" video worth £14.99 comes free with any Amiga pack.

It covers in detail, & step by step, all the first time buyer needs to know to get their A500 up & running, as well as other essential operations such as backing up workbench, as well as how to connect & use external drives, & ram upgrades etc. Available separately for £14.99 + 75p postage. (US format only).

BIG PRICE REDUCTION ON THE A590 HARD DRIVE

**NOW ONLY £299.99, or
with 1 meg - £339.99
with 2meg - £364.99**

Unleash the potential of your A500. Adding an A590 20meg hard drive, especially with extra ram fitted, is like giving your car a new & bigger engine - what a difference ! Supplied with or without extra ram installed.

PRINTERS & MONITORS. Prices include free cable.

- PHILIPS CM8833 STEREO..... £239.99
- COMMODORE 1084SD..... £249.99
- QUADRAM MULTISYNC HIRES COLOUR MONITOR WITH TILT BASE £399.99
- STAR LC10..... £154.99
- STAR LC10 COLOUR £199.99
- STAR LC24-10 - SEE NEW LC24-200
- CITIZEN SWIFT 24 COLOUR £339.99
- CITIZEN 120D+ £139.99
- COMMODORE MPS1230..... £147.99

NOW YOU CAN RUN PC SOFTWARE ON YOUR A500.

KCS PC/XT BOARD for A500 Fits in 1/2meg ram card slot, gives Amiga 1meg ram & battery backed clock. Most PC software runs faster than on many PC/XTs. Easy to fit - no soldering, does not invalidate the Amiga warranty, & comes with MsDos 4.01 + manuals, full fitting & operating instructions, + installation disks.

HIGHLY IMPRESSIVE & ONLY £319.99

FREE FANTAVISION SOFTWARE WORTH £18.99

HOW TO ORDER.

BY PHONE ON ACCESS OR VISA
BY MAIL - SEND CHEQUE OR PO MADE PAYABLE TO TRILOGIC.
PROMPT DESPATCH. C/CARDS NOT CHARGED UNTIL GOODS DESPATCHED.
NEXT DAY DELIVERY £6.00 EXTRA (UK MAINLAND, excluding SCOTTISH HIGHLANDS)
(Cheques must clear before goods despatched) PRICES CORRECT AT TIME OF GOING TO PRESS. E&OE.

SALES HOTLINE - 0274 - 691115

ENQUIRIES - 0274 - 678062 . FAX - 0274 - 600150

**TRILOGIC, DEPT CE, UNIT 1, 253 NEW WORKS RD,
BRADFORD, BD12 0QP**

Established 1984

THE NORTH'S COMPUTER DISCOUNT CENTRE

CALLERS WELCOME.

OPEN 8am - 7pm Mon - fri. 8- 4pm Sat

THE FABULOUS NEW STAR PRINTERS

PRICE INCLUDES VAT, CABLE & DELIVERY
LC200 7 COLOUR 9 PIN ...£239.99

This new 9 pin 7 colour printer features 180cps draft speed & 45cps NLQ speed. 4 fonts + italics, paper park, friction & top & bottom tractor feeds, A4 landscape (sideways) facility & front panel dip switch control. It has a 16k buffer.

LC24-200 24PIN MONO.....£274.99

LC24-200 24PINCOLOUR..£329.99

These new 24 pin printers feature 200cps draft speed & 65cps NLQ speed. 5 fonts + italics, paper park, friction & top & bottom tractor feeds, A4 landscape (sideways) facility & front panel dip switch control. The colour version has a 30k buffer, the mono one, a 7k buffer.

4MEG RAM CARDS

LOW COST, INTERNAL FITTING

This 1/2 - 4meg A500 memory expansion system is compatible with both old & new Agnus chips, & workbench 1.2 & 1.3. Ram can be configured as fast ram & chip ram. Fits into 1/2 meg slot, but Gary chip adaptor requires internal fitting which will invalidate your warranty. Features battery backed clock, fully socketed - expand when you like in 512k steps using standard 256*4 D rams. No soldering required. Comprehensive instruction book & utility disk included. Compatible with most software.

UNPOPULATED 4MEG CARD..£89.99

COMPLETE WITH 1MEG.....£129.99

COMPLETE WITH 2MEG.....£164.99

COMPLETE WITH 3 MEG.....£199.99

COMPLETE WITH 4 MEG.....£229.99

**NO HIDDEN EXTRAS - ALL
PRICES INCLUDE VAT & P&P**

3.5" EXTERNAL DRIVES NOW ONLY £59.99

- 880K FORMATTED, 1 MEG UNFORMATTED
- THROUGH PORT
- ON / OFF SWITCH
- LOW POWER CONSUMPTION
- COMPACT METAL CASE
- VERY QUIET, VERY RELIABLE

51/4" EXTERNAL DRIVES ONLY £99.99

A500 1/2 meg UPGRADES NOW ONLY £34.99

- 1/2 meg RAM CARD - ALL CHIPS SOCKETED.
- ON / OFF SWITCH & LOW POWER RAM CHIPS
- EACH ONE IS INDIVIDUALLY TESTED
- EASY TO FIT - NO TOOLS NEEDED & NO NEED TO BREAK THE AMIGA WARRANTY SEALS.

WITH CLOCK & BATTERY ONLY £39.99

1/2 meg RAM CARD + 3.5" 1meg EXTERNAL DISK DRIVE ONLY £84.99

1/2 meg RAM CARD with clock/
battery + 3.5" 1meg EXTERNAL
DISK DRIVE ONLY £89.99
(Drive has thru port & switch.)

**PLEASE ASK FOR FREE
CATALOGUE.**

CRACKING THAT

Mary Branscombe shows you how to test your code and hunt out any bugs you might encounter on the way.

Writing good code is difficult enough; writing it the first time round is even more difficult. Having planned the program and written the code, you need to fix any obvious problems and test the entire program thoroughly to find any less obvious failings. Dealing with the obvious bugs to make the code work and dealing with any problems discovered during testing require similar techniques and next week's article attempts to take some of the myth and mystique out of debugging, but even testing your code is not as easy as it might seem.

Even if you can solve the obvious problems in your code and the program gives you the right answer for the first few cases you use, it is still worth testing the code thoroughly, especially if you will not be the only user, or if you intend to extend or expand it at some later date. You must be sure that **all** aspects of the code do work properly and you need to devise a comprehensive set of test data to check this.

PLANNING

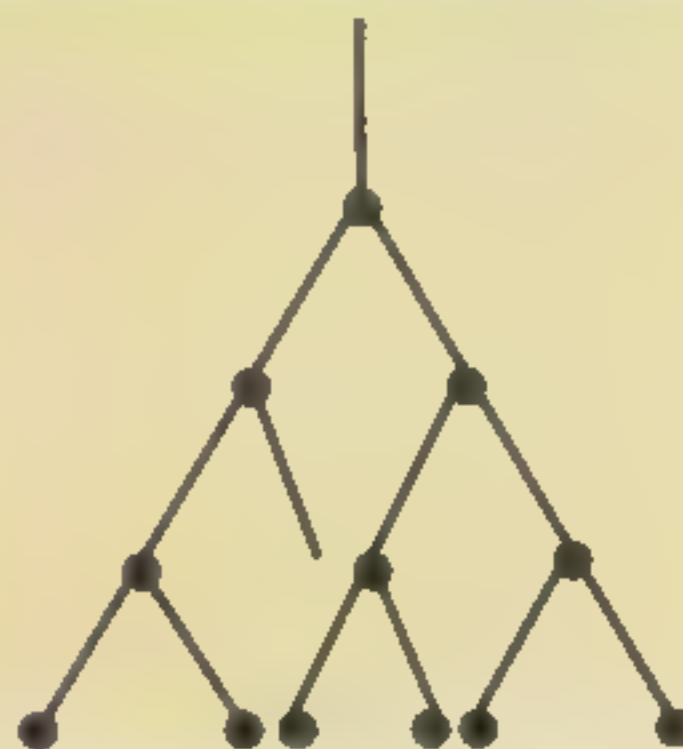
If a program doesn't work correctly, then this is, presumably, because the programmer didn't know about the problem. Good planning and program design should improve the reliability of programs and make problems easier to deal with. It is not enough to assume that the program works as it **is** designed to do; you must attempt to demonstrate that the program does not fail.

For this reason, the data used to test your program should consist of a set of inputs that are intended to make the program fail, so that you can find out what the program can't do, rather than finding out what it can do on carefully selected data.

You should test a program aggressively and put as much effort into making the program fail so that you can improve it, as you did into designing and writing the

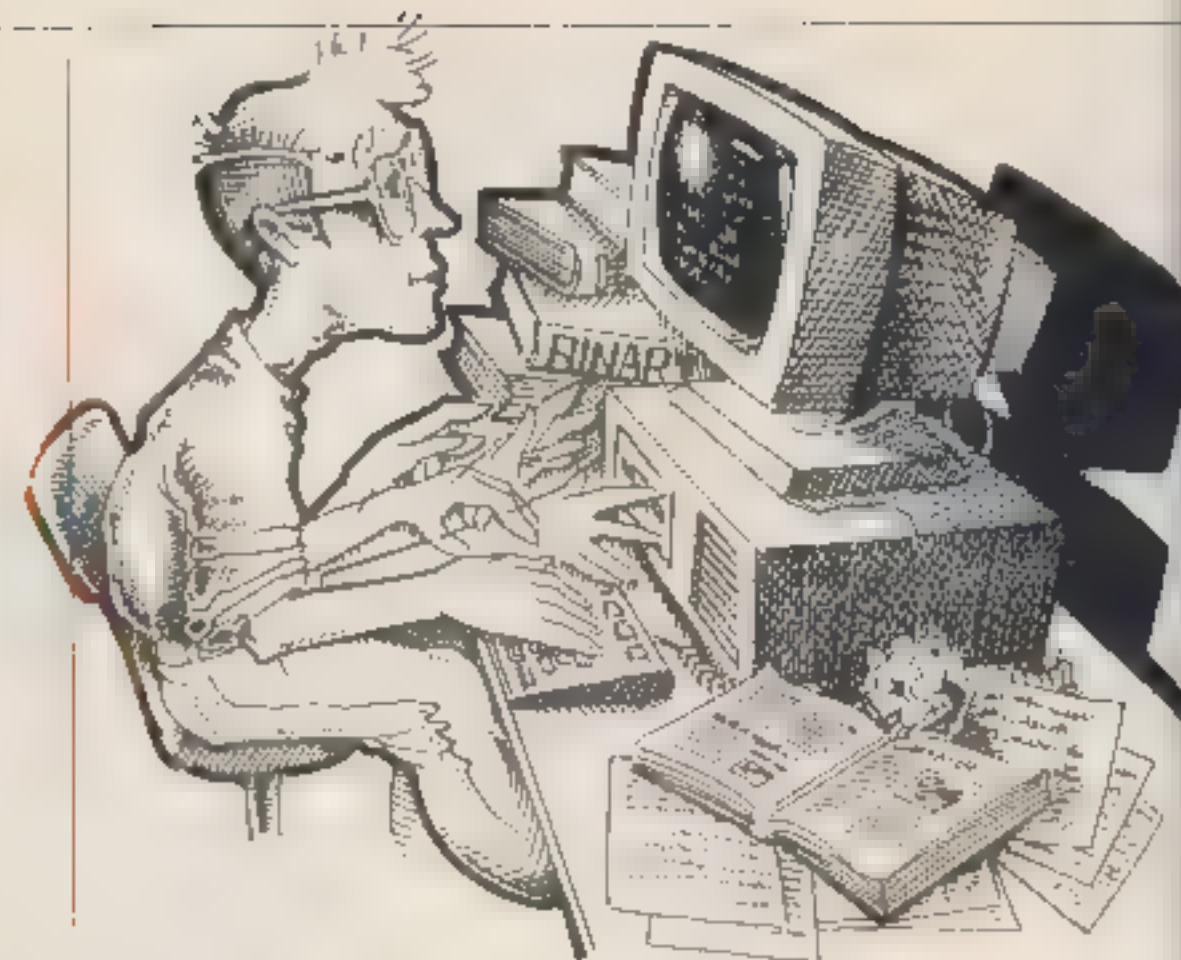
code in the first place. It may be difficult to be entirely rigorous with a program that you have worked on at any length and it is an excellent idea to entrust an alpha test version to another programmer. Once the problems discovered in this way have been dealt with, a beta test version can be given to selected users who will almost certainly try to use the program in ways you will never have envisaged.

If a program is composed of discrete modules, then these can be tested incrementally as the code is written; if **all** the modules produce the correct results with no unwanted side effects, then the final program should



• The combined control paths in a program.

work reasonably well. Alternatively, the finished program can be tested with a set of data that tries out all the functions of all the modules once they are integrated, but this may be difficult with large programs and the modules can only be tested as they work within the full program. If a module is only used for a specific task by other modules within the program, then this is satisfactory, but if the code provides a general service like



sorting or searching, then it is important to test it fully so that you can reuse it in other applications, or in an extended version of the program.

Irrelevant and impossible data will crash any program, and it is better to build a checking routine into the program to reject such input and test the program only on feasible data. The test data should take the program down as many of the possible control paths as possible.

If you envisage the control flow of the program as a branching tree (see digram), the control path forks at choice points – conditional selections and loops where the next command executed is dependant on the state of the variables and constants in the code. The number of possible paths doubles at each such choice point and so it will be impossible to test all possible combinations of all control paths by hand, for programs of any reasonable size.

At the very least, you should use test data that will take the code down every path at some point. (see diagram below) It is important to test the program on exceptions, extremes and boundary cases, making the task very large, null and negative, as well as covering a range of common, reasonable situations.

AUTOMATION

Little work has been done to automate testing, although Apple Computers does use a LISP program that tests out many of the combinations of commands in approved software packages. Test data simulators and generators can be used to record a user's commands and rerun this as test data, but this still requires manual input. Static analysers are found in some environments; these check the text of the program looking for potential problems such as unused variables and unreferenced areas of code, while dynamic analysers trace the flow of control and supply some information on the structure of a program.

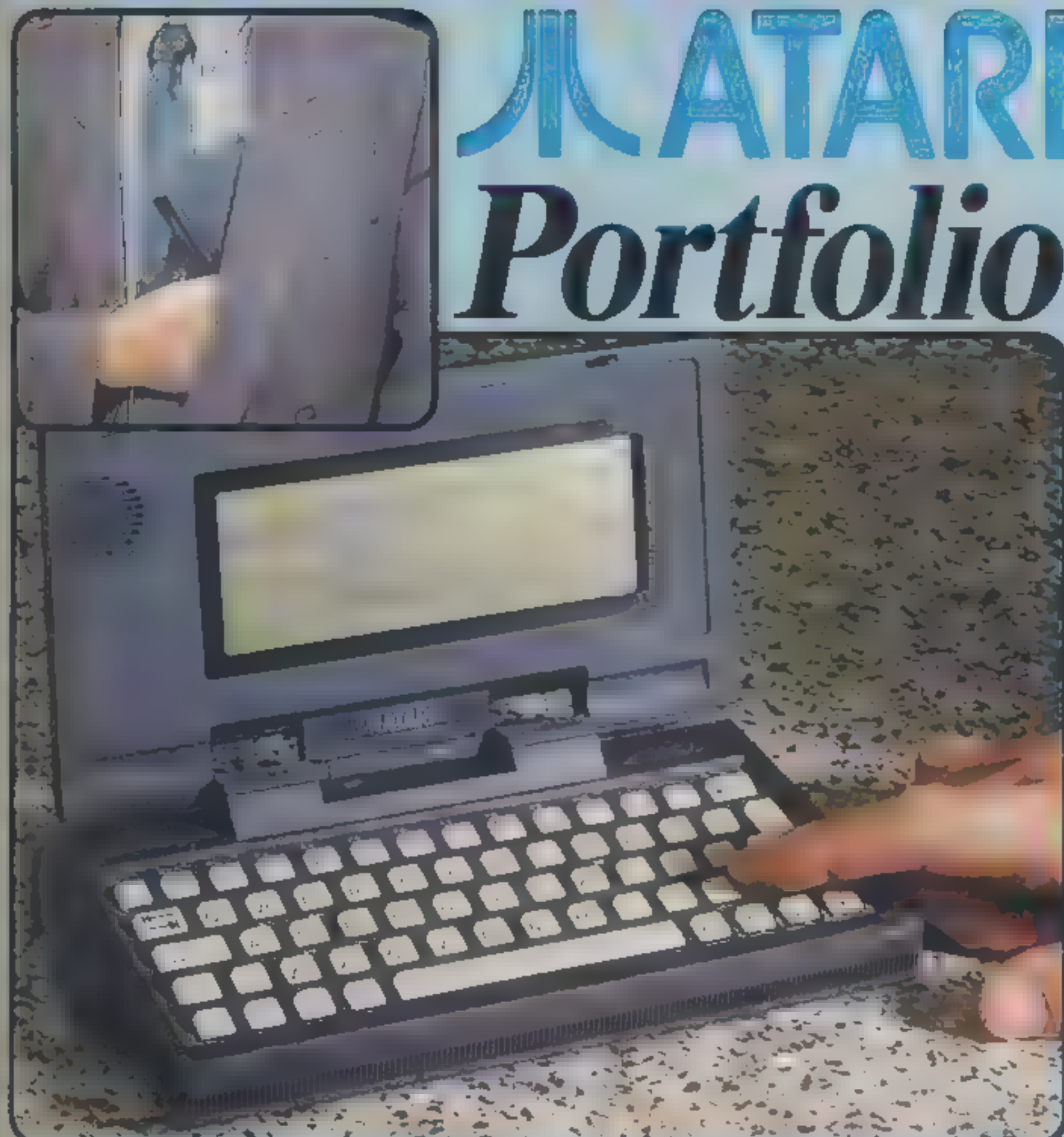
Once any bugs have been found and corrected then the test procedure should ideally be repeated in full. This is known as regression testing and rarely takes place in practice, but you should at least run some of the tests again, if only those that test the code that has been rewritten, and any code that depends on or accesses the corrected areas. ■



• But for effective debugging you'll need to check each of these control paths.

★ POCKET SIZED ★ PC-COMPATIBLE ★ PERSONAL ORGANISER ★

ATARI Portfolio



THE PC IN YOUR POCKET

The new Portfolio from Atari is the world's first pocket-sized electronic organiser that is also a powerful PC compatible computer, with a full QWERTY keyboard and scrolling 80x25 character display.

Portfolio includes everything you would expect from an electronic organiser - an address and telephone book, time manager, diary and sophisticated calculator.

Portfolio also includes several functions that you would not expect - a spreadsheet for your personal budget and expense records, as well as a text processor for typing memos and letters.

And, because Atari's Portfolio is PC compatible, it can communicate with your desktop PC at home, or in the office. You can transfer files from one to the other, to enable you to update your reports and figures with the Portfolio while you are on the move.

FOR ONLY **£199** INC VAT

SPECIFICATION

- **Processor:** Intel 80C88 @ 4.9152Mhz.
- **Operating System:** Compatible with MS-DOS 2.11
- **Internal ROM:** 256K containing BIOS, operating system and applications suite.
- **RAM:** 128K with an internal RAM disk, configurable from 8K. Externally expandable to 640K RAM.
- **Keyboard:** 84 keys, QWERTY, IBM PC BIOS compatible. Bumped numeric pad and function keys. Optional key click.
- **Character Set:** Extended IBM ASCII (255 characters).
- **Mass storage:** Credit card sized memory cards (32K or 64K or 128K RAM).
- **Display:** Graphics LCD, supertwist technology, MDA compatible. 40 columns x 8 lines, 240 x 64 pixels (with the option to window a full 80 x 25 character display). Keyboard controlled contrast.
- **Peripherals:** 8 pin expansion BUS to take serial and parallel ports and memory expansion units.
- **Size:** 8" x 4" x 1" (200mm x 105mm x 29mm).
- **Weight:** 495 grammes (with batteries).
- **Applications:** calendar and diary, address and phone book, Lotus 1-2-3 compatible spreadsheet, text processor, communications software.

5 BUILT-IN APPLICATIONS! TO GET YOU ORGANISED!

To get you started, Portfolio comes with a suite of five useful functions built-in, all accessible from a simple menu display.

TIME MANAGER

More than just an electronic diary, the Portfolio Time Manager enables you to plan your appointments via a comprehensive calendar and diary. It can even be programmed to sound an audible alarm at specific times to remind you of important appointments.

CALCULATOR

Your Portfolio will be invaluable in the office or at home as a powerful pocket calculator. It has a full range of functions, including factorial,

power and root calculations, all with multi-display formats and memories.

ADDRESS BOOK & DIALLER

Portfolio has a complete address book facility that allows you to store hundreds of addresses and phone numbers. And, at the touch of a button, you can retrieve any one of them, or search for a specific grouping, such as "all Italian restaurants". And, when you are ready to book your table, hold your Portfolio to your telephone mouthpiece and use its special built-in tone dialler to dial the number for you.

TEXT PROCESSOR

The Portfolio's built-in text processor program

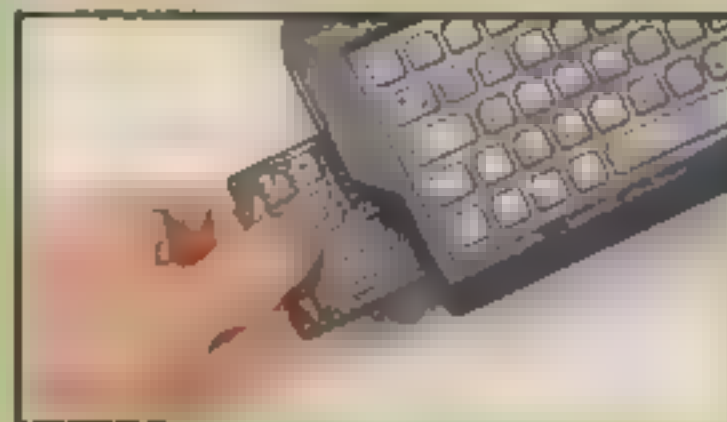
includes word wrap, line and column count, string search, in fact most of the functions you would find in a word processor. It handles printer and word processor control codes and allows easy transfer of files between Portfolio and your desktop PC.

SPREADSHEET

For real calculating power, Portfolio has a Lotus 1-2-3 compatible spreadsheet built-in. It has 127 columns x 255 rows and reads/writes Lotus V1.0 and V2.01 files, so you can transfer data to and from Lotus 1-2-3 on your desktop PC. The Portfolio's 256K ROM includes MS-DOS and PC BIOS compatible systems software.

COMING SOON!

In addition to the excellent software built-in to the Portfolio Free of Charge (see right), other software and peripheral products, such as the sophisticated Pocket Finance package and serial/centronics interfaces are available. And it doesn't stop there. Many manufacturers have recognised the potential of the Portfolio and have already started to design new peripherals and software. Products currently under development include: Serial interface with built-in modem, Apple Macintosh interface, business, utility and programming software plus a range of adventure and battle strategy games. For further free details on the Portfolio range, fill in the coupon below and return it to Silica Systems now.



MEMORY CARDS

Portfolio can store and retrieve data and programs from its own RAM or from small credit card size memory cards, that slot into its built-in card drive. The cards are available in three sizes, 32K, 64K and 128K, so you can carry a library of data in your pocket. The card drive also accepts ROM cards, which can contain commercial or custom software.



POWER SUPPLY

Portfolio is powered by three AA batteries which will run for up to six weeks with normal use, or from the mains using an adaptor. All the peripherals take their power from the Portfolio, so no extra batteries or adaptors are required. A 'battery-low' warning and memory back-up ensure that information is not lost when the batteries are changed.



INTERFACES & PERIPHERALS

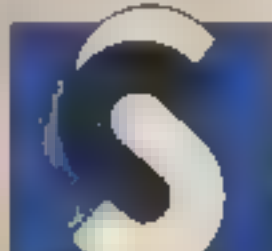
Portfolio can communicate with other computers and supports a growing range of peripherals via a built-in 60 pin bus connector. Peripherals available include serial and parallel interfaces and memory expanders (to 640K). You can also add a card drive to your desktop PC, to enable it to read/write to Portfolio's cards.

SILICA SYSTEMS OFFER YOU

FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK.
TECHNICAL SUPPORT HELPLINE: Team of Atari technical experts at your service.
PRICE MATCH: We normally match competitors on a "Same product - Same price" basis.
ESTABLISHED 12 YEARS: Proven track record in professional computer sales.
£13m TURNOVER (with 60 staff): Solid and reliable with maintained growth.
BUSINESS/EDUCATION/GOVERNMENT: Volume discounts available for large orders.
SHOWROOMS: Demonstration and training facilities at our London & Sidcup branches.
THE FULL STOCK RANGE: All of your Atari PC requirements from one supplier.
FREE CATALOGUES: Will be mailed to you with offers and software/peripheral details.
CREDIT: By cash, cheque and all major credit cards.
PAYMENT TERMS: Silica are licensed credit brokers - details on request.

Before you decide when to buy your new Atari Portfolio, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Portfolio, when you may require additional peripherals, software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new Portfolio products? At Silica Systems, we ensure that you will have nothing to worry about. Silica Systems is a new division of Silica Shop, the UK's leading Atari specialists. This new division has been established to provide a service to the more serious home user, as well as to business and education purchasers. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers' requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now, for our latest Free literature and begin to experience the 'Silica Systems Service'.

**SILICA
SYSTEMS**



MAIL ORDER: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-309 1111
Order Lines Open: Mon-Sat 9:00am-6:00pm No Late Night Opening Fax No: 081-308 0808

LONDON SHOP: 52 Tottenham Court Road, London, W1P 0BA Tel: 071-580 4000
Opening Hours: Mon-Sat 9:30am-6:00pm Late Night Thursday until 8pm Fax No: 071-323 4737

SIDCUP SHOP: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-302 8811
Opening Hours: Mon-Sat 9:00am-5:30pm Late Night Friday until 7pm Fax No: 081-309 0017

BUSINESS/EDUCATION: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-308 0888
Order Lines Open: Mon-Fri 9:00am-6:00pm Closed on Saturdays Fax No: 081-308 0608

To: Silica Systems Ltd, Dept NCE-1190 38 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND INFORMATION ON PORTFOLIO

Mr/Mrs/Ms: Initials: Surname:
Address:
Postcode:
Tel (Home): Tel (Work):
Company Name:
Which computer(s), if any, do you own?

DID YOU GET LUCKY?

At long last we have the results. Sorry it's taken so long, but the response was overwhelming and our resident artificial intelligence blew a fuse sorting through all the entries. Happy hunting!

ACTIVE SALES AND MARKETING POSTERS: Ralph Smyth, Worcester, Alex Redhead, East Yorkshire, Richard Musson, Halifax, Andrew Forrest, Ayrshire, D. Yeardley, Sheffield, Chris Stevenson, Heathfield, Darren Powis, Gwent, Greg Ransom, Hastings, David Bryant, Lowestoft, R. Lopez, London, W. Lee, Selkirkshire, Michael A. Brooker, Rossendale, A. Law, Worthington, Philip Markin, Beeston, Russell Aram, Sutton-in-Ashfield, William Hawling, Manchester, S. J. Keates, Romford, Andrew Roberts, Holyhead, Mr Lee, Walthamstow, Ashish Patel, Surrey.

AMSTRAD GX4000: R. J. Summers, Gloucestershire

ANCO: KICK OFF 2: W. Agar, Bradford, David Paul James, Manchester, A. W. Martin, Billingshurst, Mrs G. Thorburn, Cumbria, Phillip James, Wiltshire, Mr G. Arncliffe, West Yorkshire, Martin N. Gibson, West Yorkshire, Geoff Dixon, Cheshire, Michael Dutton, Cleveland, Anne Edmondson, Fife, Piper, Cambridge, Martin Livet, Bedfordshire, John Luby, Berwickshire, J. Z. Dean, Cheshire, P. M. Ellis, Stockport, Mrs M. Brownhill, Cheshire, Mr A. Gilholm, Bedlington, Mr T. Lowrey, Belford, Keith Lee, Macclesfield, Philip Johnson, Tyne and Wear, Mr Redwood, Ramsgate, Steve Allen, Sheffield, A. C. Duck, Preston, Ken Jagger, Leeds, Mike Norton, Colindale.

PLAYER MANAGER: Steven Richardson, Runcorn, David Simons, Macclesfield, Mr J. Davis, Southend-on-Sea, Michael Henry, Willesden, Chris Worrall, Abingdon, Alastair Krebs, Grampian, Rupert Martin, Colchester, Robert Izzard, Maidstone, Justin Brockie, Edinburgh, Glenn Campbell, Glossop, A. Roddis, Antrim, Michael O'Brien, Belfast, N. Rawlinson, Gloucestershire, Ian Waller, Durham, Martin Bishop, Bristol, John Pearce, Waltham Cross, Justin Scharvona, Chester, M. Howard, Croyley Green, J. Biggar, Dublin, D. Wilson, Herne Hill, Mr Millar, Dumfries, John Cruikshank, East Sussex, Graham Akroyd, Preston, D. Dean, Cannock, David McDonnell, Charlesworth.

TURRICAN: Harry Partridge, London, Kam Wright, Fife, Chris Rijk, Cheltenham, Christopher Dakin, Nottingham, Paul Clarke, Dorset, Antony Mew, Newbury, John Arthur, Kilbarchan, John Holcroft, Ballyclare, Barrie Canning, Belfast, Niall McCrea, Antrim, Eugene Morgan, Crossgar, John Girvin, Belfast, James Wright, Berkshire, David McKnight, Dromore, Miss E. Davies, Deeside, R. Pendelton, Watnall, Mr G. Buxton, Nottingham, Darren Crowther, Lincoln, Mr J. Marham, Hampshire, Eliot Picken, Edinburgh, Christopher Lord, Kent, Mr D. Adams, Merseyside, Gerald McGivern, Newry, Mr M. Smith, Purbrook, P. K. Coleborn, Birmingham.

Legend: Stewart Thompson, Gosport, L. Kavanagh, Tyrone, Ronald Storey, Durham, Tony Cottam, Glasgow, Barry Goodsell, Kent, Andrew Dunn, Stirlingshire, Matthew Morgan, West Sussex, Mr A. Bond, Huddersfield, Mr N. Walker, Kent, Paul Hutchinson, Selby.

CDS SOFTWARE: Nigel S. Peacock, London

CHEETAH JOYSTICK: P. J. Snaden, Bristol, David Mills, Newmarket, R. Strathmore, Wood Green, Iain Gorrie, Perthshire, Daniel Steele, Addington, Stephen Allen, Gillingham, Michael Vau, Manchester, Mrs G. Kelly, High Wycombe, W. M. Liu, Morden, Paul Nardone, Larkhall, John Havard, Derry, Tom Hutchinson, Lancaster, David Taylor, Oldham, Aidan Wilson, Clare, Mr L. Samaraweera, Harrow, Brian Beukew, Littleborough, David Andrews, Catford, James Morris, Pershore, Syed Ali, Poplar, Richard Evans, London, Mr S. Y. Lo, Grimsby, Kakil Kan, Malvern, Simon Swindell, Norwich, Mr C. Cotton, Northants, Paul Donegan, Larkhall.

CLARES SOFTWARE:

INTERDICTION: Chris Eason, Warwickshire

Artisan 2: Gavin Brown, Sheffield

RHAPSODY: Y. Patterson, Langley

COMMODORE CONSOLE: Kevin Johnson, Derbyshire, Colin Chow, Merseyside.

COMMODORE PC STARTER PACK: Cameron Wood, West Lothian

COMPUTER CONCEPTS IMPRESSION: Tim Hill, High Wycombe.

DOMARK CAPS: Mr G. Fotheringham, Dundee, Darren Durbin, Newport, Cliff D'Arcy Twickenham, J. P. Heaney, Prestwich, Iain MacIntyre, Glasgow, Raymond Org, Sutton, David Rawlinson, Ipswich, S. Bhana, Birmingham, Nick Holland, Maidenhead, Bimal Raja, Streatham, Anthony McAloone, Cumbria, Mark Clarke, Clifton, Stephen Stokes, Aylesbury, Michael A. Marshall, Kent, Stephen Luddy, Portsmouth, Alex Poole, Acton, Mr R. Lambert, Cumbria, Ian Tari, Loughborough, Kenny Rough, Lowestoft, G. Richards, Essex, A. Brathwaite, Forest Gate, Steve Ford, Falmouth, Paul Smith, Maidstone, E. Sheldon, Newcastle-on-Tyne, J. Harvey, Blackley, Gavin Black, Edinburgh, Alex Fleetwood, Leiston, J. Riddell, Herne Bay, Kevin O'Connell, Glaway, Michael Kearney, Dublin, Peter Kay,

Manchester, P. Hardy, Ramsgate, R. Brown, Perth, M. I. Lively, Chwyd, C. J. Lees, Stonehowe, Mike Lyons, Manchester, Alex Bull, Edinburgh, Mr M. A. Stewart, Edinburgh, Mr M. J. Pearce, Sutton, John B. Taylor, Tunbridge Wells, Melvyn Sach, Great Wakering, Mr J. O'Neill, Livingston, Peter Woods, Cirencester, Graeme Overton, Stockport, M. Knight, Daventry, Mick Lewis, Worcester, Bill Brand, Perth, Mr M. J. Weston, Bournemouth, Mr I. C. Poynter, Bedding, Michael Rathburn, Derbyshire.

ELECTRONIC ARTS SOFTWARE: Vikram Kimyani, Hounslow, K. B. Wan, St. Ripley, Mr R. Borland, London, Andrew Broadhurst, Gainsborough, Jim Macura, Tadley, Tim Jelves, Countesthorpe, Mr A. Hyllon, London, Ben Weatherley, Orpington, Paul Brown, Edinburgh, John O'Mahony, Southall.

ELECTRONIC ARTS T-SHIRT: Mr R. W. Roys, Rochford, Mr J. Gay, Wembley, Keith Hammett, Wakefield, Richard Osborn, Huddersfield, Stewart McClements, Dumfries, Mike Pearson, Inverkeithing, Iain S. Menzies, Edinburgh, Martin Kotlewski, Fife, Mr Matthew Bowden, Reading, Graham Mills, Perth, Michael Scott, Annalong, Barry Smith, Daventry, Mr Unsworth, Manchester, John Golden, Croydon, Ms M. Kilby, Aylesford, Jim Houston, Bury, Mike Hilton, Manchester, K. Crabbe, Widcombe Hill, Martin Beamish, Lowestoft, Leo Harlas, Seaford, Jo Jones, Wirral, David Valentine, Dublin, J. Davis, Wokingham, Jonathan Sturman, Suffolk, Ms M. N. Pala, Dunstable, Beds, Paul Larkin, Hempstead, P. A. Weeks, Southampton, F. McCartney, Denny, M. Moody, Pickering, Mr K. A. Jones, South Wirral, Mr A. M. Clark, High Wycombe, G. Donovan, Waterbeach, B. Shimmings, St. Leonards-on-Sea, Mr J. P. Oakton, South Humberside, Clive Packer, Northants, Janet Haey, West Yorkshire, Anthony Oxborough, Shipley, Harun M. Patel, Dawsbury, Adrian Winkles, Bishop Stortford, Heers, D. M. Penman, Weest Kilbride, Gordon Gner, Blackburn, Mr M. Williams, Littleborough, Mr C. A. Praeger, Merseyside, Niran S. Ravat, Leicester, Neil Egerton, London, Timothy Kimber, Fleet, Clive Patey, London, Karen Dyer, East Finchley, S. Palei, Evington, Mr A. Whitaker, Cheshire.

ELECTRONIC ARTS BADGE: Peter Guilbert, Guernsey, Paul Boocock, Southport, Mr A. Desouza, London, G. J. Salt, Leeds, Keith Bernstone, Darlington, Brett Patterson, Sheffield, Aonghus de Barra, Dublin, Mark McDermott, Salford, Seamus Gorman, Kildare, Nicholas Beecham, Grimsby, Steve Sargent, Littlehampton, Chris Glen, East Kilbride, Ian Ferguson, Cumbria, Mr J. W. Fountain, Durham, E. Sekhon, Tipton, David Plater, Bridport, Spencer Dixon, Bridgwater, Scott Keir, Moray, J. Richardson, Dumfries, Paul Mumford, Hitchin, Pete Newton, Dalgetty Bay, Amer Butt, Prestwich, Richard West, New Macdon, Sean Thompson, Rotherham, Peter G. Lee, Cheltenham, B. Salmon, Shoreditch, Rhydian Blackmore, Dyfed, Ian Agostini, Islington, Simon Deakin, Morden, Carl Little, Chester, David McLean, Linlithgow, Mr R. Rennie, Inverclyde, Vincent Barreto, Brixton, M. Kirk, Hamilton, M. Humphreys, Dereham, Glyn Holden, Liverpool, Steven Morton, West Midlands, Simon Jennings, St. Albans, Chris Millar, Dumfries, Nick Haworth, Cambridge, Mr P. Downes, Pontypridd, Colin Coates, Hampshire, Marc Kitter, Hayling Island, Mr L. Humphries, Leamington, Nick Tyrrell, Deptford, B. Kit, Dalston, Carl Greenhalgh, Keswick, Mr J. Johnson, Christchurch, Craig Cartledge, Solihull, Andy Pickering, Staffordshire.

FUTURE: Brian McCaig, Ayrshire, Mrs Pamela Spensley, Harrogate, Mr T. Whittingdale, Suffolk.

MC MIND MACHINE: S. A. Sheriff, Antrim

LOCOSCRIPT PC SOFTWARE: Alistair May, Moray

LOCOMOTIVE PCW PACK: Colin Talbot-Sykes, Kettering, N. Page, Chesterfield.

LOGITECH: Mr P. Shaw, Merseyside

MICRONET: A. P. Brooks, Thatcham, Mr M. A. Moore, Darlington, Paul Fisher, Sheffield, Alex Clark, Aberdeen, A. Fell, Caithness, Matthew Feeney, Keighley, C. Alexander, Cardiff, Carlos Verge, South Norwood, John Harman, Basingstoke, Mr G. Pollington, Devon, Patrick Lowe, Sligo, Ms S. McCarron, Darling, Bruce Mead, Tyne and Wear, H. Swan Carsham, Thomas Brennan, Dublin, Nigel Kings, Gerrards Cross, P. Gallagher, Tynne and Wear, Neill Thulin, West Lothian, Simon Thomas, Hitchin, Paul Redmond, Walthamstow, Kulvinder Maingi, Brentford, Dave Winder, Surrey, A. R. Nelson, Bristol, Mr G. Miles, Ayrshire, Mr A. Nunn, Glasgow, Mr E. M. Burns, Bradford, Mr S. Davies, Wolverhampton, John Carroll, Lacashire, Islam Uddin, London, A. Chandler, Warwickshire, Malcolm Fenton, Ipswich, M. J. Mann, Aberdevonshire, Richard Taylor, Delabole, Mrs M. Reid, Manchester, Mrs S. Harvey, Stanford-le-Hope, David McQueen,

Greencocch, Gary Stimson, Roade, Derek G. Thow, Caldicot, Manning, North Thamesmead, Chris Miller, Cheltenham, N. Stevenson, Bridgwater, Shazud Miah, London, Colin Smith, Hampstead, M. J. Pryor, Barnhamsted, Tim Forbes, Twickenham, M. Woodward, Hednesford, P. J. Sykes, Manchester, Gavin Syme, Edinburgh, Stuart Elliott, Tameside, J. R. Crosby, Tyne & Wear, Stephen Wild, Oldham, Mr C. M. Amos, Telford, A. Lipscombe, Northfleet, Sean Laird, Sutherland, M. C. Essex, Exeter, P. Book, Normanton, Paul Manning, Mallock, Anthony Box, Chessington, Mr S. A. Morgans, Bexley, R. P. E. Harman, Peckham, E. A. Cook, Llanfranche, Daniel Morella, Upper Norwood, Colin D. Speirs, Glasgow, G. L. Hall, York, L. Levett, Welling, Colin Hunter, Skipton, S. Rafferty, Brighton, James Handley, Barnes, R. C. Turner, Catford, C. M. Howell, Fleet, N. A. Barnes, Mirdale, Conor Farrington, Aberdeen Shire, Adam Hot, Woking, Gary Kelly, Wakefield, Bryan Morton, Bangor, C. J. Phelps, Brockworth, J. Collis-Smith, Workington, Mr T. E. White, Southfields, Michael Nicholas, Lancaster, C. Green, Leeds, Michael Conway, Southport, R. Bailey, Liverpool, S. Greenwood, York, Mr M. J. Taylor, Hilmarton, A. D. Swan, Bordon, Andrew Ellams, Runcorn, Gregg, Houghton, Portsmouth, Steven Allan, Edinburgh, Mr A. Gates, Essex, M. Bell Camperdown, George Nicholl, Kilbride, Brian Sherry, Laidon, Robert Edwards, Quinton, M. Craig, London, Mr James Mason, Ontario, S. Westlake, Guildford, Paul Waters, Winyates, Shaun McLemon, Hanwell, Garry Williams, Bunhill Row, Scotty Mitchell, Banffshire.

MIRRORSOFT TURTLES GOODIES PACK: Kriss Buddle, Leytonstone, K. Wadgama, East Barnet, Elizabeth J. Ingman, Derby, Andrew Main, Badger Hill, Mr S. R. Fincham, Newark.

TOB TRACKER: Mr J. P. Lincoln, Winchmore Hill

GFA BASIC: Sandy McNair, Glasgow

SECTOR 16: P. J. Greenwood, Blackburn, Joseph O'Connor, Derry, Jon Williams, Plymouth, Angus McLellan, West Lothian, Ian Taylor, Tayside, Glen Ross, Portmahomack, Hugh Barr, Isle of Skye, Kevin Renshaw, Plymouth, Mr M. G. Ames, London, Dale Harris, Bradford, Mandy Swain, Shropshire, Matthew Armistead, London, Ralph Headley, Macclesfield, Mr A. Hayman, Chingford, Mr M. Hughes, Pitstone, Alan Walsh, Worthing, Mr M. Page, Blackpool, Jonathan Dicks, Birmingham, J. Abram, Wolverhampton, S. Mumford, Basildon, Stephen Clark, Boscombe, Adam Cox, Peterborough, E. Reid, Barnes, W. Waghorn, Essex, Howard Derbyshire, Wollaton, John Swire, Charlton, Mark Sutton, Swansea, M. Gilling, Milton Keynes, Darren Green, Antrim, Noel Williams, Sheffield, Sean Elliott, London, Chris Brayford, Altrincham, Nick Bower, Edinburgh, James Powell, Romford, Malcolm James, Blackfield, Matthew Hyde, Romsey, Martin Webster, Littleborough, Tracy Hartley, Yeovil, Mr C. Weston, Worksop, S. J. Yewdall, Bristol, Mr M. Alexi, London, Gill Fox, Matlock, Michael Bird, West Bromwich, Brian Cousins, Liverpool, Anser Ditta, Bradford, Andrew Bunney, Romsey, R. M. Bridgett, Stoke-on-Trent, B. Parrott, Portsmouth, K. W. Birks, Stockport, Mr N. A. Souter, Colchester.

SOFTWARE BUSINESS: W. Jervis, Billingham, Frank Tanner, Balloch, Martin Bann, Laidon, Hugh Boatwain, Walthamstow.

STAR LC-10 Printer: Mr C. A. Harris, Headington

US Gold: Gavin Bruce, Aberdeen, Ron Baines, Billingham, Steve Tetchner, Westcliff-on-Sea, Mr A. Pearson, Edinburgh, F. G. Trolman, Hornchurch, Mr M. K. Taylor, Bournemouth, Sid Sayers, Weybridge, M. C. McCarthy, Paisley, Sam Keegan, Dublin, Mr M. W. Carr, Rhyl, R. Francis, Ramsgate, N. Patchett, Wellingore, Mr R. M. Darker, Basingstoke, Paul J. McKee, Fenham, Allan Wood, Swinton, Paul Gregg, Antrim, I. Rutson, Timperley, G. Barden, Cleckheaton, Johnathan Swan, Ovingham, John Wilkinson, London, Alan O'Flaherty, M. Lucas, Edinburgh, Peter Skirenko, London, Dean Burton, Drumchapel, Steve Sharples, West Yorkshire, David Horton, Haverfordwest, Susie Phillips, Pembroke Dock, Stuart Redding, Southampton, Kit Watson, Fife, Howard Marshall, Bishops Cleeve, Ken Parker, Nottingham, V. M. Davies, Pontnewydd, Tobie Blower, Colchester, Mr P. J. Flint, Northants, Paul Sammy, Cumbernauld, K. J. Bassett, Bexhill-on-Sea, R. Stokes, Stockton-on-Tees, Danny Finnie, Ayrshire, Andrew Walker, Horsham, Mr T. Monaghan, Dundee, Frank Barrett, Hamilton, N. Martin, Braintree, Mr S. Josephs, Burgess Hill, T. Hudson, Wendlebury, Simon Francis, Blandford, Richard Gain, Beckenham, Stephen Sherwin, Belfast, John Harner, Hawes, Chris Garbutt, Basildon, David Willis, Camborne.

VIRGIN T-SHIRT: Stuart C. Smith, Lanarkshire, Daniel Woodford, Horkstow, Mr M. Jackson, Aylesbury, Paul Hornby, Altrincham, Tony Lowes, Leigh-on-Sea.

Well did you?

THE ATARI ABC

Now, there's a PC-AT compatible that not only solves problems like other AT compatibles, it also solves the one problem that its predecessors have created ... affordability.

Silica Systems are pleased to present the new Atari ABC. The ABC is a 286 AT compatible that runs at over 5 times the performance of the IBM XT. This is achieved by combining the power and speed of a 16-bit 286 processor, with Atari Corp's development experience and engineering capabilities, which use the very latest in design technology. However, the Atari ABC's are available at 'XT prices' and many XT owners will wonder why they paid more, but got less!

The ABC is a reliable, high performance computer, built to exceptionally rigorous standards. It is well designed, to a state of the art specification, maintaining maximum expansion capability for the future. This includes up to 4Mb of RAM and 3 AT expansion slots. Plus, unusually for a PC at this price, the ABC has the ability to install two or three extra drives, with the cabling already inside the CPU.

The ABC has a host of impressive features, all built-in as standard, encouraging simple installation and ease of use. In addition, the ABC's small footprint and quiet operating, mean that you will notice it less on your desk than other PC's. Except, of course, when you begin to take advantage of its AT power.

At its remarkably low price point, the ABC is ideally suited for home, office and educational use and will take full advantage of the vast range of PC compatible software. And, with 12 months FREE on-site maintenance (8 hour response), you can rest assured that your ABC will be fully supported.

The ABC is the latest addition to a comprehensive range of both 286 (8Mhz or 12Mhz) and 386 (16Mhz and 20Mhz) PC's, from the Business Systems Division of Atari Corp. Atari's PC range offers an unsurpassed combination of reliability, compatibility and expandability, with unique features like Atari's 44Mb removable hard disk on their PC4. Return the coupon NOW for further details of the complete range of PC products from Atari's Business Systems Division.

**ABC
TURBO**

AVAILABLE: JUNE 90

To put the ABC even further ahead of the competition, we have introduced a special 'Turbo' version, which includes a super fast RLL hard disk controller to increase the data transfer rate from 150KBytes/s to 800KBytes/s, with a performance index of 4.801. Plus! provide exceptional graphics with an outstanding colour resolution of up to 1024x768, we have included a Super VGA graphics adaptor and a 14" VGA colour monitor (which also supports 1024x768 resolution), all for an additional price of only £300. Check the ABC Turbo against the competition, at only £1299 (+VAT) with 30Mb hard disk, Super VGA colour graphics capabilities, plus 12 months on-site maintenance, it offers unbeatable value.

LOW PRICE - HIGH SPEC!

CPU + MOTHERBOARD	<ul style="list-style-type: none"> 8Mhz 80286 16-bit CPU Landmark Speed = 10.3Mhz, Norton SI Test = 9.0 Latest NEAT (New Enhanced AT) technology chip set Has user selectable bus, DMA speeds & wait states Programmable to operate at 0 or 1 wait states 640K RAM base memory (expandable) Motherboard expandable to 4Mb RAM memory Real time clock with battery back-up Full 16-bit data line capability Socket for 80287-8 numeric Co-Processor 3 16-bit AT expansion slots (max)
DISK	<ul style="list-style-type: none"> 32Mb RLL hard disk - 150KBytes/s transfer - 60ms access Fast disk controller - 800KBytes/s transfer - Turbo version 1.44Mb built-in 3 1/2" floppy disk drive Space for two 5 1/4" and two 3 1/2" drives (max)
I/O	<ul style="list-style-type: none"> Parallel port built-in (25-pin Centronics) Serial port built-in (9-pin RS-232) Mouse controller port built-in (9-pin serial)
GRAPHICS	<ul style="list-style-type: none"> Super VGA video graphics controller - 512K - Turbo vers Super VGA: 256 colours in 800x600 res - Turbo vers EGA video graphics controller built-in EGA: 16 colours available from a palette of 64 EGA: 256K of dedicated Video RAM built-in MDA, CGA and Hercules graphics controller built-in
PHYSICAL	<ul style="list-style-type: none"> Low noise operation Ergonomic small footprint (38cm x 41cm x 15cm) Keyboard - 102 key enhanced AT (12 function keys) Keyboard - has 2 position height adjusters
PLUS!	<ul style="list-style-type: none"> Fully OS/2 compatible (requires 4Mb RAM) Supports Industry Standard Networks MS-DOS 3.3 with GW BASIC 3.22 12 Months FREE on-site maintenance included

SILICA SYSTEMS OFFER YOU

ON-SITE MAINTENANCE (8 hour response): Available Free of Charge on all ABC's.
TECHNICAL SUPPORT HELPLINE: Team of Atari technical experts at your service.
100% QUALITY CONTROL: Every ABC is tested/burnt-in before despatch.
FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK.
ESTABLISHED 12 YEARS: Proven track record in professional computer sales.
£13m TURNOVER (with 60 staff): Solid and reliable with maintained growth.
BUSINESS/EDUCATION/GOVERNMENT: Volume discounts available for large orders.
PRICE MATCH: We normally match competitors on a "Same product - Same price" basis.
SHOWROOMS: Demonstration and training facilities at our London & Sidcup branches.
THE FULL STOCK RANGE: All of your Atari PC requirements from one supplier.
FREE CATALOGUES: Will be mailed to you with offers and software/peripheral details.
PAYMENT: Cash/cheque/credit card/credit - we are licensed credit brokers - details on request.

Before you decide when to buy your new Atari ABC, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your ABC, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new ABC products? At Silica Systems, we ensure that you will have nothing to worry about. Silica Systems is a new division of Silica Shop, the UK's leading Atari specialists. This new division has been established to provide a service to the more serious home user, as well as to business and education purchasers. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now, for our latest Free literature and begin to experience the "Silica Systems Service".

**SILICA
SYSTEMS**

286 AT

WITH 30Mb HARD DISK & EGA MONITOR - £899

FREE! - ON-SITE MAINTENANCE
FREE! - TECHNICAL SUPPORT HOTLINE
FREE! - TEST/BURN-IN BEFORE DESPATCH
FREE! - OVERNIGHT COURIER DELIVERY

£899
 WITH +VAT
**30Mb
HARD
DISK**
 AND
**EGA
MONITOR**



**ABC
TURBO
£1299**

• SVGA COLOUR MONITOR
 • SVGA GRAPHICS CARD - 512K
 • 30Mb HARD DISK DRIVE
 • FAST DISK CONTROLLER

£899 +VAT= £1033.85

ATARI

	3 1/2" FLOPPY DRIVE NO HARD DRIVE	3 1/2" FLOPPY DRIVE + 30Mb HARD DRIVE
NO MONITOR	£599 +VAT = £688.85	£799 +VAT = £918.85
+ EGA MONO	£699 +VAT = £803.85	£899 +VAT = £1033.85
+ EGA COLOUR	£799 +VAT = £918.85	£999 +VAT = £1148.85
ABC TURBO AVAILABLE: JUNE 90	• 14" SVGA COLOUR MONITOR • SVGA GRAPHICS ADAPTOR • FAST DISK CONTROLLER £1099 +VAT = £1263.85	£1299 +VAT = £1493.85

MAIL ORDER: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-309 1111
 Order Lines Open: Mon-Sat 9.00am-6.00pm No Late Night Opening Fax No: 081-308 0608
LONDON SHOP: 52 Tottenham Court Road, London, W1P 0BA Tel: 071-580 4000
 Opening Hours: Mon-Sat 9.30am-6.00pm Late Night: Thursday until 8pm Fax No: 071-323 4737
SIDCUP SHOP: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-302 8811
 Opening Hours: Mon-Sat 9.00am-5.30pm Late Night: Friday until 7pm Fax No: 081-309 0017
BUSINESS/EDUCATION: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-308 0888
 Order Lines Open: Mon-Fri 9.00am-6.00pm Closed on Saturdays Fax No: 081-308 0608

To: Silica Systems Ltd, Dept NCE-1190 28, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND INFORMATION ON ATARI PC's

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode:

Tel (Home): Tel (Work):

Company Name:

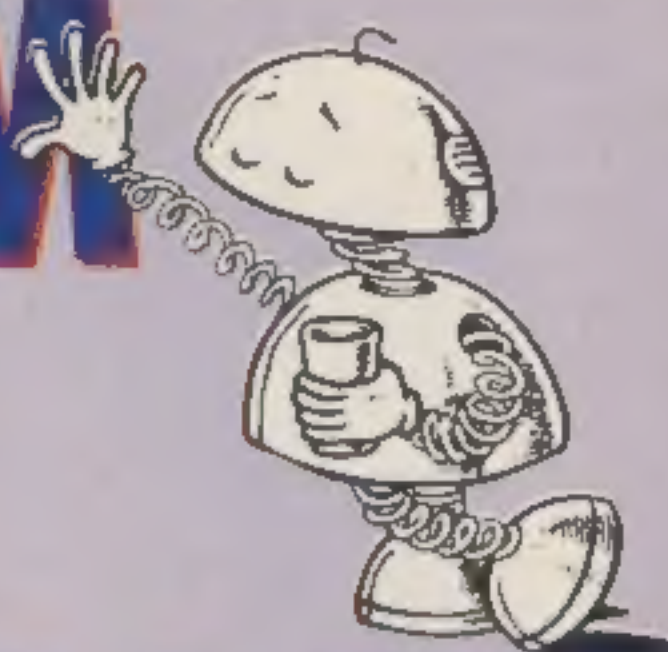
Which computer(s), if any, do you own?

©OE - Advertised prices and specifications may change - please return the coupon for the latest information.

COMPETITION

WIN! WIN! WIN! WIN!

IT'S THE SUPER SAM SCORCHING GREAT GIVEAWAY COUPE COMP



Do you believe in re-incarnation? Want to get in on the act. Read On...

The SAM Coupé has bounced back against the odds and under new(ish) management the mega 8-bit looks set to roar into the 1990 Christmas sales chart. Yep, there's plenty of life ahead of it yet.

So what will you get in our raving rip-roaring rampant roving romp? Just about the sexiest bit of kit this side of a sizzling Soviet Spectrum that's what. It's the Archimedes of the 8-bits! Graphics on a par with the ST, sound that'll blow away a polysynth and most of the Spectrum games ever to see the light of day. All in all, a cool couple of hundred quids worth of delicious digital dynamics.

To save being trampled in the rush, all you have to do is answer half a dozen simple questions, complete a couple of tie-breakers and lick a stamp.

If you're the lucky winner you will get a brand spanking new Coupé with the compliments of SAM Computers. If you're not, you'll have to get trampled in the rush and take your chances at the shops.

WIN!



QUESTIONS

1) Unix is...

- a) A brand of washing powder
- b) A one wheeled bike

- c) The Sam Coupé's disk operating system
- d) A boring old OS for workstations with more than 8-bits

2) Which sixties' surfin' sound band was responsible for the hit: "Little Deuce Coupé?"

- a) Bleach Boils
- b) Beech Boys
- c) Beach Buoys
- d) Beach Boys
- e) Beetch Boyz
- f) Breech Buoys
- g) Led Zeppelin

3) Which of these famous pairs were known as the dynamic duo?

- a) Alan Miles and Bruce Gordon
- b) Roy Rogers and Trigger
- c) Batman and Robin
- d) Emily Bishop and Amy Turtle

4) In Twin Peaks, who killed Laura Palmer? Do you think it's...

- a) Special Agent Cooper
- b) The Log
- c) Audrey (who, incidentally, is in the December issue of Playboy)
- d) Irrelevant, because the inherent formal continuity transcends any bourgeois notion of conclusive narrative denouement
- e) Impossible to say at this stage

5) Which Sam looks a bit like Sharon off EastEnders?

- a) Sam Spade
- b) Sam Eggar
- c) Sam Fox
- d) Sam Tramiel
- e) Sam Pulls

6) What does MGT stand for?

- a) Melons Give Tummy-ache
- b) More Great Technology
- c) Miles Gordon Technology
- d) Mega Giga Thrusters
- e) Metro Goldwyn Taffies
- f) Manufacturer Got Totalled

Name.....

Address.....

The answers are: 1) 2) 3) 4) 5) 6)

Supplementary question in the event of a tie breaker:

The Delors proposal for a common European currency is unworkable because

(no more than five words)

Put your answers on the coupon and send it in to:
The Super SAM Soaraway Comp,
Express, 30 Monmouth Street, Bath, Avon BA1 2BW.
Entries to arrive no later than 8th December 1990. ■

RETURN THE COUPON FOR FREE COLOUR BROCHURES!

NEW! - AMIGA PACK

Commodore A500
Flight Of Fantasy

£399



A500 BATMAN PACK



The Commodore A500 Batman Pack must surely rank as one of the most popular computer packs ever! The pack features the Commodore Amiga 500 computer with mouse controller and TV modulator, plus four top software titles. The software includes: 'Batman The Movie' - Rid Gotham City of the cunning joker, in Ocean's top selling title based on the blockbuster Batman film; 'New Zealand Story' - high quality conversion of the leading arcade game; 'Interceptor' - Dogfight with two F-16's in this leading flight simulator; 'Deluxe Paint II' - top quality Amiga graphics package which set the standard for others to follow. Return the coupon for further details.

PACK INCLUDES:

A500 Computer & Mouse	£399.99
A520 TV Modulator	£24.99
Batman The Movie	£24.95
New Zealand Story	£24.95
Interceptor	£24.95
Deluxe Paint II	£49.95

TOTAL RRP: £549.78

Less Pack Saving: £150.78

PACK PRICE: £399.00

£399 INC VAT

AMIGA 2000



For the more serious or professional applications user, Commodore have a selection of systems based around the expandable Amiga 2000, prices from £1295+VAT. The A2000 features a full 1Mb RAM (expandable to 9Mb), 9 system expansion slots, plus IBM compatibility with the use of PC-XT or PC-AT bridgeboards. Complete and return the coupon, putting a tick in the A2000 box, for details in A2000 computer systems.

£1295

+VAT= £1489.25

FLIGHT OF FANTASY

Flight of Fantasy is the very latest Amiga 500 pack from Commodore, featuring BRAND NEW software releases, to make this the most spectacular A500 pack ever! The pack features the Amiga 500 computer with mouse controller and TV modulator, as well as four top software titles. These include the following:

DELUXE PAINT II:

The high quality graphics program that set the standard for other Amiga art packages. Deluxe Paint II includes powerful, easy to use tools that bring out the artist in you. Create masterpieces, presentations, 3D perspectives or just doodle.

ESCAPE / ROBOT MONSTERS:

Here's something completely different - a science fiction story with comic book style graphics. Our heroes Jake and Duke are on the Planet X rescuing Humans who have been captured by the Robot Monsters and forced to create an evil Robot Army to DESTROY EARTH! Jake and Duke fight their way through hordes of evil Robots to help the Humans escape.

RAINBOW ISLANDS:

Slip on your magic shoes, practise throwing a rainbow and you're ready to go island hopping. From the island of Doh to Monster Island, you will encounter Doh himself, slinging insects, lethal combat machines, mechanical assailants, the formidable beings of legend and folklore. Finally enter the world of darkness and its inhabitants.

F29 RETALIATOR:

The ultimate in flight simulation with a choice of two aircraft and four battle environments with dozens of different tactical missions. Aerial combat, strategic bombings, interactive ground based battles, seagoing carriers - the list of features is endless. Real time cockpit displays, including 'true radar' enhance the realistic feel of this stunning simulation.

PACK INCLUDES:

A500 Computer & Mouse	£399.99
A520 TV Modulator	£24.99
Deluxe Paint II	£49.95
Escape/Robot Monsters	£19.99
Rainbow Islands	£24.95
F29 Retaliator	£24.95

TOTAL RRP: £544.82

Less Pack Saving: £145.82

PACK PRICE: £399.00

£399 INC VAT

FOR FURTHER DETAILS OF THE AMIGA RANGE, COMPLETE THE COUPON AND RETURN IT TO SILICA SHOP
THE UK's No1 AMIGA SPECIALISTS

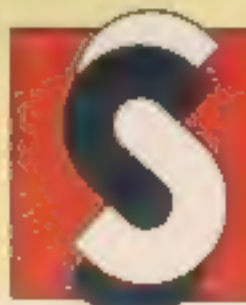
SILICA SHOP OFFER YOU

FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK.
TECHNICAL SUPPORT HELPLINE: Team of Amiga technical experts at your service.
PRICE MATCH: We normally match competitors on a "Same product - Same price" basis.
ESTABLISHED 12 YEARS: Proven track record in professional computer sales.
£13M TURNOVER (with 60 staff): Solid and reliable with maintained growth.
BUSINESS/EDUCATION/GOVERNMENT: Volume discounts available for large orders.
SHOWROOMS: Demonstration and training facilities at our London & Sidcup branches.
THE FULL STOCK RANGE: All of your Amiga requirements from one supplier.
FREE CATALOGUES: Will be mailed to you with offers and software/peripheral details.
PAYMENT: By cash, cheque and all major credit cards.
CREDIT PAYMENT TERMS: Silica are licensed credit brokers - return coupon for details.

Before you decide when to buy your new Amiga computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Amiga, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Shop, we ensure that you will have nothing to worry about. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest Free literature and begin to experience the "Silica Shop Service".

RETURN THE COUPON NOW FOR
FREE BROCHURES

SILICA
SHOP



MAIL ORDER:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	Tel: 081-309 1111
Order Lines Open: Mon-Sat 9.00am-6.00pm	No Late Night Opening	Fax No: 081-308 0608
LONDON SHOP:	52 Tottenham Court Road, London, W1P 0BA	Tel: 071-580 4000
Opening Hours: Mon-Sat 9.30am-6.00pm	Late Night: Thursday until 8pm	Fax No: 071-323 4737
SIDCUP SHOP:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	Tel: 081-302 8611
Opening Hours: Mon-Sat 9.00am-5.30pm	Late Night: Friday until 7pm	Fax No: 081-309 0017
BUSINESS/EDUCATION:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	Tel: 081-308 0888
Order Lines Open: Mon-Fri 9.00am-6.00pm	Closed on Saturdays	Fax No: 081-308 0608

To: Silica Systems Ltd, Dept NCE-1190-32, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND INFORMATION ON THE AMIGA

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode: Tel:

Which computer(s), if any, do you own? A2000 ☐

£&U: - Advertised prices and specifications may change - please return the coupon for the latest information.

THE WORLD'S MOST POWERFUL FREEZER-UTILITY CARTRIDGE IS NOW EVEN BETTER

THE NEW **MK II** VERSION IS HERE!!



STILL ONLY
£59.99
POST FREE
FOR THE A500/1000

A2000 VERSION AVAILABLE
£69.99

PLEASE STATE WHICH COMPUTER YOU HAVE WHEN ORDERING

AMIGA ACTION REPLAY SIMPLY PLUGS INTO THE EXPANSION PORT OF YOUR AMIGA AND GIVES YOU THE POWER TO FREEZE MOST ANY PROGRAM, THEN YOU CAN...

JUST LOOK AT THE UNMATCHED RANGE OF FEATURES

- **SAVE THE ENTIRE PROGRAM IN MEMORY TO DISK**
Special compacting techniques enable up to 3 programs to fit on one disk. Now saves directly to disk as Amiga Dos - reloads independently of the cartridge - even transfer to hard drive! Works with up to 2 Megs of Ram - even 1 Meg Chip Mem (Fatter Agnus).
- **UNIQUE INFINITE LIFE/TRAINER MODE - NOW MORE POWERFUL**
Allows you to generate more and even infinite lives, fuel, ammo, etc. Perfect as a trainer mode to get you past that "impossible" level. Very easy to use.
- **IMPROVED SPRITE EDITOR**
The full Sprite Editor allows you to view/modify the whole sprite set including any "attached" sprites. RANGE OF IMPROVED FEATURES.
- **VIRUS DETECTION**
Comprehensive virus detection and removal features to protect your software investment. Works with all presently known viruses.
- **SAVE PICTURES AND MUSIC TO DISK**
Pictures and sound samples can be saved to disk. Files are saved directly IFF format suitable for use with all the major graphic and music packages. Samples are displayed as screen waveform.
- **SLOW MOTION MODE**
Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts!
- **RESTART THE PROGRAM**
Simply press a key and the program will continue where you left off.
- **FULL STATUS REPORTING**
At the press of a key now you can view the Machine Status, including Fast Ram, Chip Ram, RamDisk, Drive Status, etc.
- **POWERFUL PICTURE EDITOR**
Now you can manipulate and search for screens throughout memory. Over 50 commands to edit the picture plus unique on screen status

"overlay" shows all the information you could ever need to work on screens. No other product comes close to offering such dynamic screen handling of frozen programs!!

- **MUSIC SOUND TRACKER**
With Sound Tracker you can find the complete music in programs, demos, etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!
- **AUTOFIRE MANAGER**
From the Action Replay II preference screen you can now set up autofire from 0 to 100%. Just imagine continuous fire power? Joystick 1 and 2 are set separately for that extra advantage!
- **DISKCODER**
With the new "Diskcoder" option you can now 'tag' your disks with a unique code that will prevent the disk from being loaded by anyone else. Tagged disks will only reload when you enter the code. Very useful for security.
- **PREFERENCES**
Action Replay II now has screen colour preferences with menu setup. Customise your screens to suit your taste. Very simple to use.
- **DISK MONITOR**
Invaluable disk monitor - displays disk information in easy to understand format. Full modify/save options.
- **DOS COMMANDS**
Now you have a selection of DOS commands available at all times - DIR, FORMAT, COPY, DEVICE, etc.
- **DISK COPY**
Disk Copy at the press of a button - faster than Dos Copy. No need to load Workbench - available at all times.
- **BOOT SELECTOR**
Either DF0 or DF1 can be selected as the boot drive when working with Amiga Dos disks. Very useful to be able to boot from your external drive.

PLUS A MACHINE CODE FREEZER MONITOR WITH EVEN MORE POWER!!

EVEN MORE FEATURES INCLUDING 40 COLUMN DISPLAY AND 2 WAY SCROLLING:

- Full M68000 Assembler/Disassembler
 - Full screen editor
 - Load/Save block
 - Write String to memory
 - Jump to specific address
 - Show Ram as text
 - Show frozen picture
 - Play resident sample
 - Show and edit all CPU registers and flag
 - Calculator
 - Help command
 - Full search feature
 - Unique Custom Chip Editor
- allows you to see and modify all chip registers - even write only registers
- Notepad
 - Disk handling - show actual track, Disk Sync. pattern etc.
 - Dynamic Breakpoint handling
 - Show memory as HEX, ASCII, Assembler, Decimal
 - Copper Assemble/Disassemble - now with suffix names
- REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN ITS "FROZEN" STATE WITH ALL MEMORY AND REGISTERS INTACT - INVALUABLE FOR THE DE-BUGGER OR JUST THE INQUIRIOUS!

WARNING 1988 COPYRIGHT ACT WARNING
Datel Electronics Ltd., neither condones nor authorises the use of its products for the reproduction of copyright material.
The backup facilities of this product are designed to reproduce only software such as Public Domain material, the users own programs or software where permission to make backups has been clearly given. It is illegal to make copies, even for your own use, of copyright material, without the express permission of the copyright owner, or the licensee thereof.

HOW TO GET YOUR ORDER **FAST...**

TELEPHONE (24 Hrs) - **0782 744707** - CREDIT CARD ORDERS

WE WILL DESPATCH YOUR ORDER QUICKLY & EFFICIENTLY TO ENABLE YOU TO START RECEIVING THE BENEFITS OF YOUR PURCHASE WITHIN DAYS, NOT WEEKS.

ORDERS NORMALLY DESPATCHED WITHIN 48 Hrs. ALL PRICES INCLUDE V.A.T. ALL CHEQUES/POSTAL ORDERS MADE PAYABLE TO...



DATTEL ELECTRONICS LTD.,

GOVAN ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT, ST4 2RS, ENGLAND
TECHNICAL/CUSTOMER SERVICE 0782 744324

